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Minister of Trade and Commerce

CANADA

DEPARTMENT OF TRADE AND COMMERCE

DOMINION BUREAU OF STATISTICS

CENSUS OF INDUSTRY

MINING, METALLURGICAL & CHEMICAL BRANCH

PRELIMINARY REPORT

ON THE

MINERAL PRODUCTION

OF

CANADA

1945

OTTAWA
1946

Price 25 cents

PREFACE

This report is prepared for presentation at the Annual Meeting of the Canadian Institute of Mining and Metallurgy, which is to be held in Montreal, Quebec, on April 9-10-11, 1946. It contains final figures of Canada's mineral production for 1944, and a preliminary estimate for 1945 which is subject to revision as the final returns for each metal and mineral are compiled. Separate bulletins will be issued giving full details of 1945 data. Information contained in the bulletins is later published in the Annual Report of the Mineral Production of Canada.

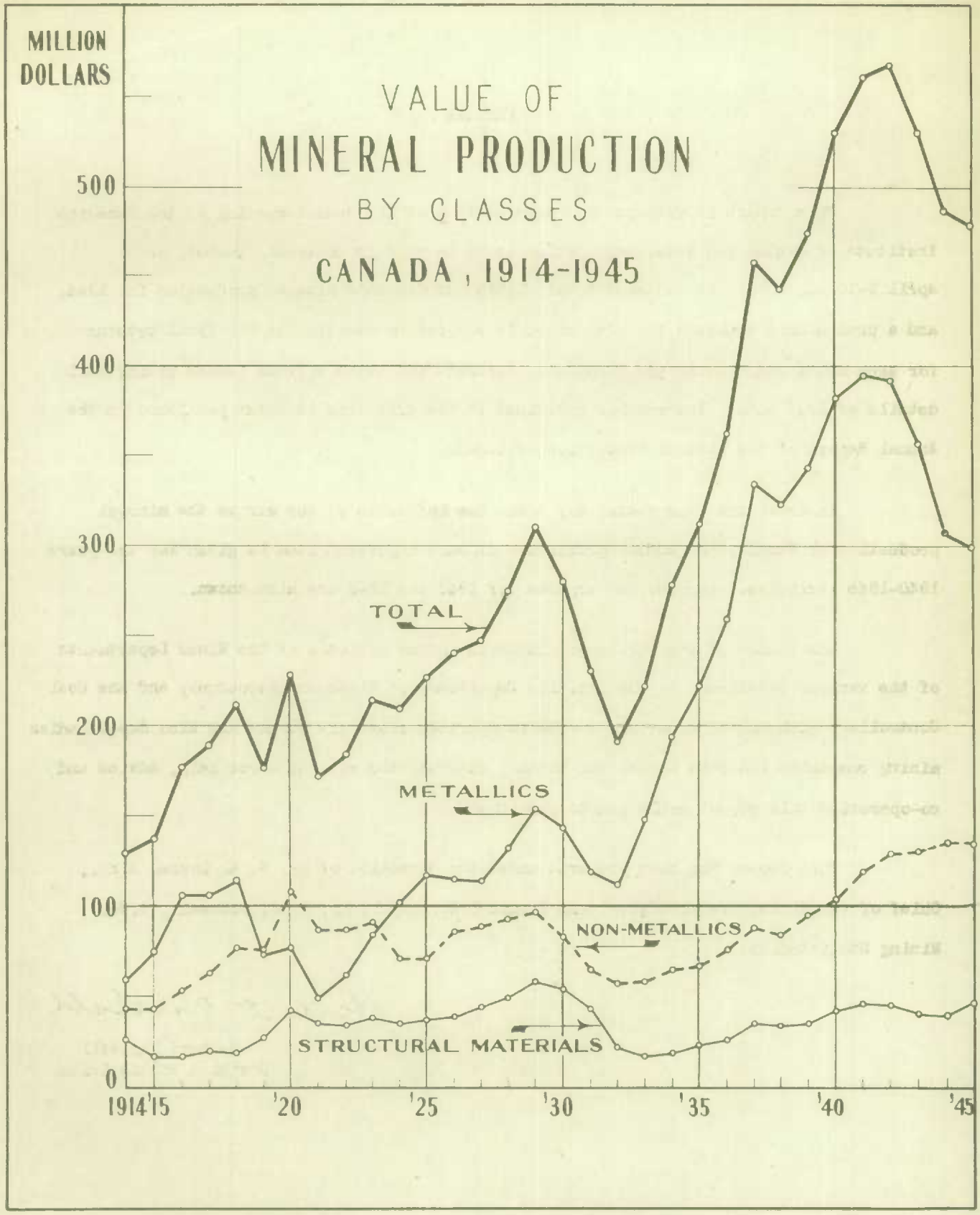
In order that the reader may trace the influence of the war on the mineral production of Canada, the annual production of each important item is given for the years 1940-1945 inclusive. Imports and exports for 1944 and 1945 are also shown.

The thanks of the Bureau are tendered to the officers of the Mines Departments of the various provinces, to the Dominion Department of Mines and Resources, and the Coal Controller, with all of whom this Bureau co-operates closely. Thanks are also due Canadian mining companies who make annual and monthly returns, and without whose help, advice and co-operation this report would not be possible.

This report has been prepared under the direction of Mr. W. H. Losee, B.Sc., Chief of the Mining, Metallurgical and Chemical Branch, by Mr. R. J. McDowall, B.Sc., Mining Statistician.

Herbert Marshall

Herbert Marshall
Dominion Statistician.


MILLION DOLLARS
VALUE OF
MINERAL PRODUCTION
BY CLASSES
CANADA, 1914-1945
500
400
300
200
100
0
TOTAL
METALLICS
NON-METALLICS
STRUCTURAL MATERIALS
1914
'15
'20
'25
'30
'35
'40
'45

Dominion Statistician: Herbert Marshall, B.A., F.S.S.
Chief - Mining, Metallurgical and Chemical Branch: W. H. Losee, B.Sc.
Mining Statistician: R. J. McDowall, B.Sc.

PRELIMINARY REPORT

on the

MINERAL PRODUCTION OF CANADA

DURING THE CALENDAR YEAR 1945

Canada's mineral production was valued at $479,587,911 in 1945 as compared with $485,819,114 in 1944.

Taken by groups, the aggregate value of metals production decreased $9 million, fuels were down nearly $2 million, but the industrial minerals, such as asbestos, gypsum, barytes, etc., increased $1 million and the structural materials group was up $4 million.

In the metals group, gold production totalled $102 million, a drop of $10 million from the previous year. Copper and nickel were both lower in quantity and value; zinc production decreased, but the increase in the price received accounted for a greater value than last year. Lead production was greater in both quantity and value. Iron ore production practically doubled that of 1944.

Among the fuels, coal production was about 300,000 tons less than in 1944. Output in New Brunswick, Saskatchewan and Alberta was higher, but Nova Scotia and British Columbia were down. Oil production was down about 1.5 million barrels; of this, Alberta production dropped 300,000 barrels and the Northwest Territories 870,000 barrels. Natural gas increased nearly 6,000,000 M cubic feet, the value being greater than last year by $1.4 million.

Among the non-metallic minerals other than fuels, gains were noted in the output of asbestos, barytes, feldspar, graphite, gypsum, magnesitic dolomite, nephaline-syenite, but salt, quartz, sodium sulphate and sulphur were down.

In the structural materials group, gains were recorded in the production of clay products, cement, and sand and gravel, but lime output and stone were less.

VALUE OF MINERAL PRODUCTION OF CANADA, BY CLASSES, 1933-1945

Year	Metallics	Coal, natural gas, peat and crude petroleum	Other non-metallics	Clay products and other structural materials	TOTAL
			(dollars)		
1933	147,015,595	47,778,436	10,004,537	16,696,687	221,495,255
1934	194,110,968	54,262,099	10,501,762	19,286,761	278,161,590
1935	221,800,849	54,824,200	12,504,008	23,215,400	312,344,457
1936	259,425,194	59,983,320	16,740,117	25,770,741	361,919,372
1937	334,165,243	65,828,879	22,495,271	34,869,699	457,359,092
1938	325,075,154	64,803,294	20,066,123	33,878,666	441,823,237
1939	343,506,123	70,671,328	25,061,849	35,362,759	474,602,059
1940	382,503,012	78,837,874	26,011,498	42,472,651	529,825,035
1941	395,346,581	85,141,997	34,379,440	45,373,272	560,241,290
1942	392,192,452	92,169,291	36,677,122	45,729,807	566,768,672
1943	356,812,760	92,514,334	38,716,568	42,010,254	530,053,966
1944	308,292,161	97,291,007	37,251,009	42,984,937	485,819,114
1945 (x)	299,000,004	95,493,358	38,288,207	46,806,342	479,587,911

(x) Preliminary.

MINERAL PRODUCTION OF CANADA, BY PROVINCES, 1942-1945

Province	1942 $	1942 Per cent	1943 $	1943 Per cent	1944 $	1944 Per cent	1945 (f) $	1945 (f) Per cent
Nova Scotia	32,783,165	5.9	29,979,837	5.6	33,981,977	6.99	33,630,855	7.01
New Brunswick ..	3,609,158	.6	3,676,854	.7	4,133,902	.85	4,405,795	.92
Quebec	104,300,010	18.4	101,610,678	19.2	90,182,553	18.56	88,751,614	18.51
Ontario	259,114,946	45.7	232,948,959	43.9	210,706,307	43.37	199,807,489	41.66
Manitoba	14,345,046	2.5	13,412,286	2.5	13,850,406	2.85	13,609,975	2.84
Saskatchewan ...	20,578,749	3.6	26,735,984	5.0	22,291,848	4.59	22,477,310	4.69
Alberta	47,359,851	8.4	48,941,210	9.2	51,066,662	10.51	51,421,626	10.72
British Columbia	77,247,932	13.6	68,442,386	12.9	57,246,071	11.78	63,694,196	13.28
Northwest Territories (x)	3,976,267	.7	2,679,995	.6	1,440,069	.31	596,150	.12
Yukon	3,455,568	.6	1,625,819	.4	939,319	.19	1,194,905	.25
TOTAL	566,768,672	100.0	530,053,966	100.0	485,819,114	100.00	479,587,911	100.00

(x) Excluding pitchblende products.
(f) Preliminary.

MINERAL PRODUCTION OF CANADA, BY KINDS, 1944 and 1945

	Unit of measure	1944 Quantity	1944 Value $	1945 (b) Quantity	1945 (b) Value $
METALLICS					
Antimony	lb.	1,937,933	281,000	1,680,000	292,656
Arsenic (As_2O_3)	lb.	2,627,022	180,866	2,031,471	53,167
Bismuth	lb.	123,875	154,844	210,000	287,700
Cadmium	lb.	526,970	579,667	637,000	630,630
Calcium	lb.	...	...	29,543	22,386
Chromite	ton	27,054	748,494	5,662	148,970
Cobalt	lb.	36,283	34,106	109,125	90,026
Copper	lb.	547,070,118	65,257,172	476,284,746	59,499,670
Gold	fine oz.	2,922,911	112,532,073	2,661,567	102,470,330
Iron ore	ton	553,252	1,909,608	1,134,808	3,263,321
Lead	lb.	304,582,198	13,706,199	345,455,080	17,119,703
Magnesium	lb.	10,579,778	2,575,695	7,449,367	1,463,892
Mercury	lb.	735,908	1,210,375	...	...
Molybdenite concentrates	lb.	2,127,508	1,079,698	976,160	419,747
Nickel	lb.	274,598,629	69,204,152	243,956,502	61,838,259
Palladium, rhodium, iridium, etc.	fine oz.	42,929	1,960,085	155,600	6,482,719
Platinum	fine oz.	157,523	6,064,635	162,000	6,237,000
Pitchblende products	...	(a)	(a)	(a)	(a)
Selenium	lb.	298,592	537,466	419,000	720,750
Silver	fine oz.	13,627,109	5,859,656	12,866,597	6,000,605
Tellurium	lb.	10,661	18,657	42,000	59,000
Thallium	lb.	128	1,690	...	...
Tin	lb.	516,626	299,643	850,000	484,500
Titanium ore	ton	53,973	165,195	13,306	64,666
Tungsten concentrates	lb.	886,745	245,780	...	...
Zinc	lb.	550,823,553	23,685,405	509,638,004	31,350,307
TOTAL METALLICS	...	...	308,292,161	...	299,000,004

MINERAL PRODUCTION OF CANADA, BY KINDS, 1944 and 1945
(Concluded)

	Unit of measure	1944 Quantity	1944 Value $	1945 (b) Quantity	1945 (b) Value $
NON-METALLICS					
Fuels					
Coal	ton	17,026,499	70,433,169	16,692,465	68,854,255
Natural gas	M cu. ft.	45,067,158	11,422,541	50,794,000	12,879,000
Peat	ton	644	5,397	125	1,125
Petroleum	bbl.	10,099,404	15,429,900	8,550,000	13,759,000
TOTAL FUELS	...	...	97,291,007	...	95,493,358
OTHER NON-METALLICS					
Asbestos	ton	419,265	20,619,516	460,051	21,405,391
Barytes	ton	118,719	1,023,696	140,198	1,224,475
Corundum	ton	175	17,111	1,350	119,700
Diatomite	ton	13	437	20	510
Feldspar	ton	23,509	227,632	28,047	264,820
Fluorspar	ton	6,924	217,701	6,922	225,627
Garnet schist	ton	3	90	...	...
Graphite	ton	1,582	171,166	1,840	185,000
Grindstones	ton	225	12,000	158	8,349
Gypsum	ton	596,164	1,511,978	822,380	1,928,045
Iron oxides	ton	8,599	150,250	11,498	152,822
Magnesitic dolomite and brucite	...	...	1,159,281	...	1,251,000
Mica	lb.	6,684,846	841,026	7,369,964	216,096
Mineral waters	gal.	156,150	79,051	155,000	78,000
Nepheline syenite	ton	47,625	217,989	60,135	256,902
Peat moss	ton	(c) 80,446	1,869,553	85,849	2,148,140
Phosphate	ton	482	6,716	294	4,515
Quartz	ton	1,740,262	1,658,409	1,458,847	1,492,765
Salt	ton	695,217	4,074,021	678,004	4,025,085
Silica brick	M	3,997	312,092	4,295	343,182
Soapstone (including some talc)	ton	19,013	204,127	13,889	145,847
Sodium carbonate	ton	44	484	239	2,629
Sodium sulphate	ton	102,421	987,842	86,643	850,455
Sulphur	ton	248,088	1,755,759	245,859	1,860,860
Talc	ton	13,584	153,122	13,000	140,000
TOTAL OTHER NON-METALLICS	...	...	37,251,009	...	38,288,207
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS					
Clay products (brick, tile, etc.)	...	...	6,997,425	...	8,585,185
Cement	bbl.	7,190,851	11,621,372	8,378,341	13,908,014
Lime	ton	885,142	6,926,844	831,982	6,421,547
Sand and gravel	ton	28,399,986	10,280,119	29,021,249	10,513,992
Stone	ton	5,994,992	7,159,177	5,884,718	7,577,804
TOTAL CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS	...	...	42,984,937	...	46,806,342
GRAND TOTAL	...	...	485,819,114	...	479,587,911

(a) Not available for publication.
(b) Preliminary.
(c) Includes some duplication resulting from the resale of moss purchased from other producers.

PRELIMINARY ESTIMATE OF MINERAL PRODUCTION OF CANADA, 1945

		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Northwest Territories	Yukon	CANADA
METALS												
Antimony	lb.	...	...	...	...	...	...	...	1,680,000	...	...	1,680,000
	$	...	...	...	...	...	...	...	292,656	...	...	292,656
Arsenic	lb.	...	...	1,906,471	225,000	...	...	...	...	...	...	2,031,471
	$	...	...	40,467	12,700	...	...	...	...	...	...	53,167
Bismuth	lb.	...	...	...	...	...	...	...	210,000	...	...	210,000
	$	...	...	...	...	...	...	...	287,700	...	...	287,700
Cadmium	lb.	...	...	...	...	21,000	112,000	...	504,000	...	...	637,000
	$	...	...	...	...	20,790	110,980	...	498,960	...	...	630,630
Calcium	lb.	...	...	...	29,543	...	...	...	...	...	...	29,543
	$	...	...	...	22,586	...	...	...	...	...	...	22,586
Chromite	ton	...	...	5,662	...	...	...	...	...	...	...	5,662
	$	...	...	148,970	...	...	...	...	...	...	...	148,970
Cobalt	lb.	...	...	...	109,123	...	...	...	...	...	...	109,123
	$	...	...	...	90,026	...	...	...	...	...	...	90,026
Copper	lb.	...	...	107,638,064	236,347,673	40,100,000	66,400,000	...	25,799,009	...	...	476,284,746
	$	...	...	15,508,577	29,587,567	5,032,550	8,335,200	...	3,237,776	...	...	59,499,670
Gold	oz.	3,378	...	664,226	1,590,339	66,905	109,000	7	188,580	8,757	80,597	2,661,567
	$	130,055	...	25,572,701	61,228,052	2,575,766	4,196,500	270	7,252,630	336,574	1,177,984	102,470,330
Iron ore	ton	...	...	...	1,134,808	...	...	...	...	...	...	1,134,808
	$	...	...	...	3,263,321	...	...	...	...	...	...	3,263,321
Lead	lb.	...	...	8,989,518	585,247	...	...	...	335,755,046	...	125,269	345,455,080
	$	...	...	353,581	23,410	...	...	...	16,751,702	...	5,010	17,119,703
Magnesium	lb.	...	...	...	7,449,367	...	...	...	...	...	...	7,449,367
	$	...	...	...	1,463,892	...	...	...	...	...	...	1,463,892
Molybdenite concentrates	lb.	...	...	976,160	...	...	...	...	...	...	...	976,160
	$	...	...	419,747	...	...	...	...	...	...	...	419,747
Nickel	lb.	...	...	...	243,956,502	...	...	...	...	...	...	243,956,502
	$	...	...	...	61,838,259	...	...	...	...	...	...	61,838,259
Palladium and other precious metals	oz.	...	...	...	155,600	...	...	...	...	...	...	155,600
	$	...	...	...	6,482,719	...	...	...	...	...	...	6,482,719
Platinum	oz.	...	...	...	162,000	...	...	...	(a)	...	...	162,000
	$	...	...	...	6,237,000	...	...	...	(a)	...	...	6,237,000
Pitchblende products	$	...	...	...	...	...	...	...	...	(b)	...	(b)
Selenium	lb.	...	...	161,000	161,000	32,333	64,667	...	...	...	...	419,000
	$	...	...	274,000	281,750	55,000	110,000	...	...	...	...	720,750
Tellurium	lb.	...	...	28,000	...	4,666	9,334	...	...	...	...	42,000
	$	...	...	39,000	...	6,666	13,334	...	...	...	...	59,000
Tin	lb.	...	...	...	...	...	...	...	850,000	...	...	850,000
	$	...	...	...	...	...	...	...	484,500	...	...	484,500
Titanium ore	ton	...	...	13,306	...	...	...	...	...	...	...	13,306
	$	...	...	64,666	...	...	...	...	...	...	...	64,666
Zinc	lb.	...	...	108,544,298	371,951	29,660,559	79,700,000	...	291,561,116	...	...	509,838,004
	$	...	...	5,895,930	20,253	1,765,534	5,132,680	...	18,537,930	...	...	51,350,307
Silver	oz.	114	...	2,107,349	3,184,590	496,020	1,455,000	1	5,626,580	1,940	25,223	12,866,697
	$	46	...	1,035,424	1,507,063	225,224	655,690	...	2,586,471	776	11,911	6,000,605
TOTAL METALS	$	130,099	...	47,357,065	171,858,378	9,679,530	18,552,284	270	49,890,325	337,150	1,194,905	299,000,004
NON-METALS												
Fuels												
Coal	ton	5,222,667	367,132	...	...	...	1,552,016	7,829,468	1,711,182	...	...	16,692,465
	$	29,612,484	2,058,717	...	...	...	2,316,930	27,610,876	7,255,226	...	...	68,854,233
Natural gas	M cu.ft.	...	655,000	...	8,256,000	...	155,000	41,730,000	...	...	...	50,794,000
	$	...	321,000	...	5,449,000	...	15,000	7,094,000	...	...	...	12,879,000
Peat	ton	...	...	(a)	125	...	...	...	...	...	...	125
	$	...	...	(a)	1,125	...	...	...	...	...	...	1,125
Petroleum	bbl.	...	51,000	...	114,000	...	15,000	8,039,000	...	351,000	...	8,550,000
	$	...	44,000	...	272,000	...	15,000	13,169,000	...	259,000	...	13,759,000
TOTAL FUELS	$	29,612,484	2,423,717	...	5,722,125	...	2,346,930	47,873,876	7,255,226	259,000	...	95,493,358
OTHER NON-METALLIC AND INDUSTRIAL MINERALS												
Asbestos	ton	...	...	460,051	...	...	...	...	...	...	...	460,051
	$	...	...	21,405,391	...	...	...	...	...	...	...	21,405,391
Asphalt	bbl.	...	...	...	...	...	...	(a)	...	...	...	(a)
	$	...	...	...	...	...	...	(a)	...	...	...	(a)

PRELIMINARY ESTIMATE OF MINERAL PRODUCTION OF CANADA, 1945 - (Concluded)

		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon	CANADA
Other Non-metallic and Industrial Minerals (Concluded)												
Barytes	ton	108,196	...	...	...	...	...	...	32,002	...	...	140,198
	$	1,162,875	...	...	...	...	...	...	61,600	...	...	1,224,475
Corundum	ton	...	...	...	1,330	...	...	...	...	...	...	1,330
	$	...	...	...	119,700	...	...	...	...	...	...	119,700
Diatomite	ton	4	...	...	...	...	...	...	16	...	...	20
	$	140	...	...	...	...	...	...	370	...	...	510
Feldspar	ton	...	...	24,600	3,447	...	...	...	...	...	...	28,047
	$	...	...	251,560	33,460	...	...	...	...	...	...	284,820
Fluorspar	ton	...	...	...	6,922	...	...	...	...	...	...	6,922
	$	...	...	...	225,627	...	...	...	...	...	...	225,627
Garnet rock	ton	...	...	...	(a)	...	...	...	...	...	...	(a)
	$	...	...	...	(a)	...	...	...	...	...	...	(a)
Graphite	ton	...	...	...	1,840	...	...	...	...	...	...	1,840
	$	...	...	...	185,000	...	...	...	...	...	...	185,000
Grindstones	ton	...	158	...	...	...	...	...	...	...	...	158
	$	...	8,549	...	...	...	...	...	...	...	...	8,549
Gypsum	ton	651,413	47,000	...	88,515	43,981	...	...	11,473	...	...	822,380
	$	792,076	199,500	...	357,274	548,251	...	...	50,942	...	...	1,928,043
Iron oxides	ton	...	...	11,101	...	...	...	...	397	...	...	11,498
	$	...	...	130,857	...	...	...	...	1,985	...	...	132,822
Magnesitic dolomite and brucite	$	...	...	1,251,000	...	...	...	...	...	...	...	1,251,000
Mica	lb.	...	...	3,373,040	2,896,924	...	...	...	1,100,000	...	...	7,369,964
	$	...	...	116,225	87,171	...	...	...	12,700	...	...	216,096
Mineral waters	gal.	...	...	148,000	7,000	...	...	...	...	...	...	155,000
	$	...	...	77,200	800	...	...	...	...	...	...	78,000
Nepheline syenite	ton	...	...	...	60,133	...	...	...	...	...	...	60,133
	$	...	...	...	236,902	...	...	...	...	...	...	236,902
Peat moss	ton	...	2,720	16,641	15,546	1,248	...	...	49,694	...	...	85,849
	$	...	86,040	375,642	255,534	57,042	...	...	1,374,082	...	...	2,148,140
Phosphate	ton	...	...	286	8	...	...	...	...	...	...	294
	$	...	...	4,388	125	...	...	...	...	...	...	4,513
Quartz (silica)	ton	10,670	...	205,970	1,116,115(c)	...	126,092(c)	...	...	...	...	1,458,847
	$	51,090	...	646,048	771,495	...	44,132	...	...	...	...	1,492,765
Salt	ton	36,558	...	...	585,260	26,500	...	29,886	...	...	...	678,004
	$	278,880	...	...	2,988,578	354,100	...	403,725	...	...	...	4,025,083
Silica brick	M	3,119	...	...	1,176	...	...	...	...	...	...	4,295
	$	211,400	...	...	131,782	...	...	...	...	...	...	343,182
Soapstone (including some talc)	ton	...	...	13,889	...	...	...	...	...	...	...	13,889
	$	...	...	145,847	...	...	...	...	...	...	...	145,847
Sodium carbonate	ton	...	...	...	...	...	...	...	239	...	...	239
	$	...	...	...	...	...	...	...	2,629	...	...	2,629
Sodium sulphate	ton	...	...	...	...	...	86,643	...	...	...	...	86,643
	$	...	...	...	...	...	850,455	...	...	...	...	850,455
Sulphur (pyrites)	ton	...	...	102,160	16,626	...	...	...	127,073	...	...	245,859
	$	...	...	432,100	166,260	...	...	...	1,262,500	...	...	1,860,860
Talc	ton	...	...	(d)	15,000	...	...	...	...	...	...	15,000
	$	...	...	(d)	140,000	...	...	...	...	...	...	140,000
TOTAL OTHER NON-METALS	$	2,476,459	295,889	24,816,059	5,877,508	959,595	894,587	403,725	2,766,808	...	...	38,288,207
CLAY PRODUCTS AND OTHER STRUCTURAL OR INDUSTRIAL MINERALS												
Clay products (brick, tile, etc.)	$	393,250	174,250	2,510,295	2,756,724	252,071	290,550	1,360,745	667,300	...	...	8,385,185
Cement	bbl.	...	...	5,823,616	2,421,534	954,684	...	819,932	558,575	...	...	8,578,341
	$	...	...	5,902,835	5,683,104	2,015,292	...	1,245,490	1,061,293	...	...	13,908,014
Lime	ton	469	18,934	305,304	409,000	31,807	...	17,868	48,600	...	...	831,982
	$	4,563	250,708	2,199,713	2,989,799	320,070	...	149,744	526,750	...	...	6,421,347
Sand and gravel	ton	1,507,427	1,953,523	8,781,719	9,706,167	1,154,240	976,672	829,678	4,132,023	...	...	29,021,249
	$	775,078	955,929	2,192,805	4,356,153	536,784	592,959	553,517	1,170,967	...	...	10,513,992
Stone	ton	104,570	93,245	2,598,836	2,845,547	51,842	...	13,510	177,568	...	...	5,884,718
	$	238,922	325,200	3,772,865	2,765,898	66,833	...	54,459	356,527	...	...	7,577,804
TOTAL	$	1,411,813	1,686,187	16,578,513	16,549,678	2,971,050	883,509	3,143,755	3,781,857	...	...	46,806,342
GRAND TOTAL	$	33,630,855	4,403,793	88,751,614	199,807,489	15,609,973	22,477,310	51,421,628	85,694,196	596,150	1,194,905	479,587,911

(a) Complete preliminary reports were unobtainable and there may have been a relatively small production. (b) Data not available. (c) Includes a relatively large tonnage of low-priced natural fluxing sand. (d) Included with soapstone.

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FINAL STATISTICS OF MINERAL PRODUCTION OF CANADA, 1944

		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon	CANADA
METALS												
Antimony	lb.	...	...	...	...	...	...	...	1,937,933	...	...	1,937,933
	$	...	...	...	...	...	...	...	281,000	...	...	281,000
Arsenic	lb.	...	...	2,268,067	358,955	...	...	...	...	...	...	2,627,022
	$	...	...	153,944	26,922	...	...	...	...	...	...	180,866
Bismuth	lb.	...	...	...	...	...	...	...	123,875	...	...	123,875
	$	...	...	...	...	...	...	...	154,844	...	...	154,844
Cadmium	lb.	...	...	...	...	20,921	119,639	...	386,410	...	...	526,970
	$	...	...	...	...	23,015	131,603	...	425,051	...	...	579,667
Chromite	ton	...	...	27,054	...	...	...	...	...	...	...	27,054
	$	...	...	748,494	...	...	...	...	...	...	...	748,494
Cobalt	lb.	...	...	...	36,285(b)	...	...	...	...	...	...	36,285
	$	...	...	...	34,106	...	...	...	...	...	...	34,106
Copper	lb.	...	...	108,055,172	295,307,278	45,878,639	73,514,499	...	56,502,628	11,902	...	547,070,118
	$	...	...	12,966,620	33,845,632	5,265,457	8,821,740	...	4,356,315	1,428	...	65,257,172
Gold	oz.	5,840	...	746,784	1,731,836	74,168	122,782	51	196,857	20,775	23,818	2,922,911
	$	224,840	...	28,751,184	66,675,686	2,855,468	4,727,107	1,965	7,578,994	799,858	916,998	112,532,078
Iron ore	ton	...	...	...	553,252	...	...	...	...	...	...	553,252
	$	...	...	...	1,909,608	...	...	...	...	...	...	1,909,608
Lead	lb.	...	...	10,487,842	1,065,741	...	...	...	292,922,888	...	105,727	304,582,198
	$	...	...	471,953	47,958	...	...	...	13,181,550	...	4,758	13,706,199
Magnesium	lb.	...	...	...	10,579,778	...	...	...	...	...	...	10,579,778
	$	...	...	...	2,575,695	...	...	...	...	...	...	2,575,695
Mercury	lb.	...	...	...	...	...	...	...	735,908	...	...	735,908
	$	...	...	...	...	...	...	...	1,210,575	...	...	1,210,575
Molybdenite (concentrates)	lb.	...	...	2,124,693	2,815	...	...	...	...	...	...	2,127,508
	$	...	...	1,078,616	1,082	...	...	...	...	...	...	1,079,698
Nickel	lb.	...	...	...	274,598,629	...	...	...	...	...	...	274,598,629
	$	...	...	...	69,204,152	...	...	...	...	...	...	69,204,152
Palladium, rhodium, etc.	oz.	...	...	...	42,929	...	...	...	...	...	...	42,929
	$	...	...	...	1,960,085	...	...	...	...	...	...	1,960,085
Platinum	oz.	...	...	...	157,523	...	...	...	...	...	...	157,523
	$	...	...	...	6,064,635	...	...	...	...	...	...	6,064,635
Pitchblende products	$	...	...	...	...	...	...	...	...	(a)	...	(a)
Selenium	lb.	...	...	146,352	65,000	12,957	74,285	...	...	...	...	298,592
	$	...	...	263,434	117,000	23,523	133,709	...	...	...	...	537,466
Silver	oz.	188	...	2,500,681	3,143,275	589,875	1,735,775	4	5,631,572	13,677	31,066	13,627,109
	$	81	...	1,075,295	1,351,608	245,045	746,582	2	2,421,576	5,881	13,788	5,859,656
Tellurium	lb.	...	...	...	9,900	115	648	...	...	...	...	10,661
	$	...	...	...	17,525	198	1,134	...	...	...	...	18,857
Thallium	lb.	...	...	...	...	128	...	...	...	...	...	128
	$	...	...	...	...	1,690	...	...	...	...	...	1,690
Tin	lb.	...	...	...	...	...	...	...	516,626	...	...	516,626
	$	...	...	...	...	...	...	...	299,643	...	...	299,643
Titanium ore	ton	...	...	33,975	...	...	...	...	...	...	...	33,975
	$	...	...	165,195	...	...	...	...	...	...	...	165,195
Tungsten (concentrates)	lb.	...	...	...	63,152	...	...	...	815,000	...	5,593	886,745
	$	...	...	...	5,212	...	...	...	236,788	...	3,780	245,780
Zinc	lb.	...	...	157,378,439	2,429,176	45,822,278	87,150,087	...	278,065,373	...	...	550,845,353
	$	...	...	5,907,273	194,455	1,970,358	3,746,594	...	11,956,725	...	...	23,695,405
TOTAL METALS	$	224,921	...	51,582,006	185,041,161	10,584,552	18,308,269	1,965	42,102,341	807,147	959,319	308,292,161
NON-METALS												
Fuels												
Coal	ton	5,745,871	345,123	...	...	...	1,572,766	7,428,708	2,134,231	...	...	17,026,499
	$	30,728,535	1,845,277	...	...	...	2,034,914	26,814,937	9,009,506	...	...	70,433,169
Natural gas	M cu.ft.	...	702,464	...	7,082,508	...	119,118	57,161,570	...	1,500	...	45,067,159
	$	...	341,636	...	4,694,037	...	46,656	6,339,817	...	335	...	11,422,541
Peat	ton	...	...	444	200	...	...	...	...	...	...	644
	$	...	...	3,597	1,800	...	...	...	...	...	...	5,397
Petroleum, crude	bbl.	...	23,296	...	125,067	...	...	8,727,366	...	1,223,875	...	10,099,404
	$	...	52,832	...	296,420	...	...	14,468,061	...	632,587	...	15,479,900
Total Fuels	$	30,728,535	2,219,745	3,597	4,992,517	...	2,081,570	47,622,815	9,009,506	632,922	...	97,291,007
Other Non-Metallic and Industrial Minerals												
Asbestos	ton	...	...	419,265	...	...	...	...	...	...	...	419,265
	$	...	...	20,619,516	...	...	...	...	...	...	...	20,619,516
Barite	ton	106,106	...	...	...	...	...	...	12,613	...	...	118,719
	$	970,774	...	...	...	...	...	...	52,922	...	...	1,023,696
Corundum	ton	...	...	...	173	...	...	...	...	...	...	173
	$	...	...	...	17,111	...	...	...	...	...	...	17,111
Diatomite	ton	5	...	...	...	...	...	...	8	...	...	13
	$	175	...	...	...	...	...	...	262	...	...	437

FINAL STATISTICS OF MINERAL PRODUCTION OF CANADA, 1944 (Continued)

		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	Northwest Territories	Yukon	CANADA
Other Non-Metallic and Industrial Minerals (Concluded)												
Feldspar	ton	...	...	17,842	5,667	...	...	...	...	...	...	23,509
	$	...	...	177,271	50,361	...	...	...	...	...	...	227,632
Fluorspar	ton	...	...	18	6,906	...	...	...	...	...	...	6,924
	$	...	...	670	217,031	...	...	...	...	...	...	217,701
Garnet rock	ton	...	...	...	3	...	...	...	...	...	...	3
	$	...	...	...	90	...	...	...	...	...	...	90
Graphite	ton	...	...	...	1,582	...	...	...	...	...	...	1,582
	$	...	...	...	171,166	...	...	...	...	...	...	171,166
Grindstone	ton	...	225	...	...	...	...	...	...	...	...	225
	$	...	12,000	...	...	...	...	...	...	...	...	12,000
Gypsum	ton	401,284	42,040	...	90,288	58,350	...	...	24,222	...	...	586,164
	$	489,932	200,748	...	348,873	368,498	...	...	103,927	...	...	1,511,978
Iron oxides	ton	...	...	8,117	...	...	...	...	482	...	...	8,599
	$	...	...	142,050	...	...	...	...	8,200	...	...	150,250
Magnesitic dolomite and brucite	$	...	...	1,139,281	...	...	...	...	...	...	...	1,139,281
Mica	lb.	...	...	2,274,654	3,486,212	...	...	...	924,000	...	...	6,684,946
	$	...	...	178,899	648,745	...	...	...	15,382	...	...	841,026
Mineral waters	gal.	...	...	148,965	7,185	...	...	...	...	...	...	156,150
	$	...	...	78,226	805	...	...	...	...	...	...	79,031
Nephaline syenite	ton	...	...	...	47,625	...	...	...	...	...	...	47,625
	$	...	...	...	217,989	...	...	...	...	...	...	217,989
Peat moss	lb.	...	4,000,000	38,065,580	24,981,760	2,256,580	...	...	91,588,468	...	...	160,892,388
	$	...	64,000	359,724	144,820	41,878	...	...	1,259,151	...	...	1,869,553
Phosphate	ton	...	...	482	...	...	...	...	...	...	...	482
	$	...	...	6,716	...	...	...	...	...	...	...	6,716
Quartz	ton	10,130	...	236,091	1,326,288(x)	...	143,101(x)	...	24,682	...	...	1,740,262
	$	27,350	...	659,429	868,589	...	50,085	...	73,156	...	...	1,658,409
Salt	ton	58,909	...	...	603,806	27,267	...	25,355	...	...	...	695,217
	$	281,482	...	...	2,906,117	488,776	...	397,646	...	...	...	4,074,021
Silica brick	M	2,951	...	...	1,066	...	...	...	...	...	...	3,997
	$	177,003	...	...	155,089	...	...	...	...	...	...	512,092
Soapstone (including some talc)	ton	...	...	19,013	...	...	...	...	...	...	...	19,013
	$	...	...	204,127	...	...	...	...	...	...	...	204,127
Sodium carbonate	ton	...	...	...	...	...	...	...	44	...	...	44
	$	...	...	...	...	...	...	...	484	...	...	484
Sodium sulphate	ton	...	...	...	...	...	102,421	...	...	...	...	102,421
	$	...	...	...	...	...	987,842	...	...	...	...	987,842
Sulphur	ton	...	...	116,987	17,876	...	...	...	113,525	...	...	248,088
	$	...	...	455,501	178,760	...	...	...	1,123,478	...	...	1,755,739
Talc	ton	...	...	...	15,584	...	...	...	...	...	...	15,584
	$	...	...	...	153,122	...	...	...	...	...	...	153,122
Total Other Non-Metals	$	1,948,716	276,748	23,999,410	6,058,468	899,152	1,037,927	397,646	2,636,942	...	...	37,251,009
CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS												
Clay Products												
Clay—Bentonite	$	...	...	...	...	160,268	...	2,076	1,504	...	...	163,948
Fireclay	ton	2,919	...	...	...	...	948	...	3,763	...	...	7,630
	$	10,711	...	...	...	...	9,133	...	18,589	...	...	38,433
Kaolin	ton	...	...	424	...	...	...	...	...	...	...	424
	$	...	...	5,758	...	...	...	...	...	...	...	5,758
Other clay	ton	...	...	...	486	...	18,315	...	...	...	...	18,801
	$	...	...	...	1,785	...	90,817	...	...	...	...	92,602
Fireclay blocks and shapes	$	270	...	...	...	...	194,824	...	26,157	...	...	221,251
Firebrick	M	3	...	...	...	...	...	...	3,177	...	...	3,180
	$	147	...	...	...	...	...	...	164,690	...	...	164,837
Brick, soft mud process—Face	M	...	...	...	7,489	...	...	...	428	...	...	7,917
	$	...	...	...	166,758	...	...	...	10,921	...	...	177,679
Common	M	6	1,703	1,350	5,862	516	180	4,827	1,738	...	...	14,182
	$	96	29,267	18,858	67,166	8,115	2,060	53,232	35,564	...	...	214,356
Stiff mud process—Face (wire cut)	M	...	1,411	21,724	29,930	800	138	860	292	...	...	55,175
	$	...	42,357	518,375	743,375	24,000	4,179	17,407	10,410	...	...	1,360,083
Common	M	5,981	5,293	31,009	2,999	250	214	683	22	...	...	44,451
	$	96,515	58,379	558,624	48,256	5,000	2,855	12,685	325	...	...	742,457
Dry press—Face	M	...	...	2,241	8,182	...	4	3,100	463	...	...	13,990
	$	...	...	65,947	204,747	...	138	48,719	20,164	...	...	337,715
Common	M	...	...	8,779	3,950	...	...	6,100	...	...	...	18,809
	$	...	...	163,684	88,112	...	...	65,897	...	...	...	317,893
Fancy or ornamental brick (including special shapes embossed and enamelled brick)	M	...	...	...	28	...	...	...	...	...	...	28
	$	...	...	...	868	...	...	...	...	...	...	868

FINAL STATISTICS OF MINERAL PRODUCTION OF CANADA, 1944 (Concluded)

		Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskat-chewan	Alberta	British Columbia	Northwest Territories	Yukon	CANADA
Clay Products (Con.)												
Sewer brick	M	...	...	...	235	...	...	...	...	...	...	235
	$	...	...	...	4,391	...	...	...	...	...	...	4,391
Paving brick	M	...	...	...	521	...	...	...	...	...	...	521
	$	...	...	...	18,795	...	...	...	...	...	...	18,795
Structural tile—												
Hollow blocks (including fire-proofing and load bearing tile)	ton	15,159	1,668	51,288	28,544	...	2,829	8,157	2,395	...	...	87,820
	$	119,595	14,071	283,329	271,977	...	23,503	72,556	26,527	...	...	811,558
Roofing tile	$	...	...	...	...	...	...	...	...	...	...	...
Floor tile (quarries)	$	...	...	...	43,817	...	...	...	...	...	...	43,817
Drain tile	M	158	54	618	10,785	...	85	251	1,733	...	...	13,684
	$	5,735	1,909	28,005	309,245	...	3,400	10,434	66,999	...	...	425,725
Sewer pipe (including copings, flue linings, etc.)	$	159,375	5,560	178,333	312,081	...	...	243,245	68,340	...	...	964,732
Pottery, glazed or unglazed, including coarse earthenware, stoneware, flower pots and all other pottery)	$	...	75,288	82,000	60,000	...	...	617,326	3,930	...	...	838,544
Other products	$	10,454	2,440	700	6,047	...	...	...	32,506	...	...	52,147
Total Clay Products	$	402,694	207,051	1,881,791	2,347,396	197,383	330,907	1,143,577	486,626	...	...	6,997,425
OTHER STRUCTURAL MATERIALS												
Cement	brl.	...	...	3,249,302	1,863,210	865,756	...	699,989	512,594	...	...	7,190,851
	$	...	...	4,736,004	2,730,381	1,698,567	...	1,370,502	1,085,918	...	...	11,621,372
Lime(x)—Quicklime	ton	5,362	17,218	250,616	391,678	20,428	...	18,102	36,798	...	...	738,202
	$	42,957	195,545	2,167,913	2,886,778	178,876	...	151,457	324,553	...	...	5,948,079
Hydrated lime	ton	...	2,580	88,466	37,607	9,466	...	750	8,071	...	...	146,940
	$	...	32,102	336,165	424,399	122,256	...	7,500	56,343	...	...	978,765
Total Lime	ton	5,362	19,798	339,082	429,285	29,894	...	18,852	44,869	...	...	885,142
	$	42,957	227,647	2,504,078	3,311,177	301,132	...	158,957	380,896	...	...	6,926,844
Sand and gravel	ton	911,970	1,960,382	8,541,400	9,529,803	1,102,448	1,163,097	833,524	4,357,362	...	...	28,399,986
	$	411,041	958,524	2,140,856	4,417,427	296,086	535,175	328,151	1,194,859	...	...	10,280,119
Stone—Granite	ton	1,886	1,857	127,544	125,604	357	...	...	12,716	...	...	268,964
	$	37,552	47,504	830,238	307,497	4,967	...	...	76,052	...	...	1,303,790
Limestone (x)	ton	50,754	66,731	2,370,141	2,852,241	51,572	...	12,726	181,141	...	...	5,565,286
	$	123,613	165,258	2,349,177	2,549,402	48,587	...	43,049	249,373	...	...	5,528,459
Marble	ton	...	...	6,489	5,215	...	...	...	125	...	...	11,829
	$	...	...	50,569	32,650	...	...	...	2,155	...	...	85,374
Sandstone	ton	45,813	1,400	89,470	5,225	...	...	...	4,860	...	...	146,766
	$	65,968	51,425	104,629	20,451	...	...	...	3,000	...	...	223,453
Slate	ton	...	...	198	...	...	...	...	949	...	...	1,147
	$	...	...	198	...	...	...	...	17,903	...	...	18,101
Total Stone	ton	98,433	69,988	2,593,842	2,988,283	51,929	...	12,726	199,791	...	...	5,994,992
	$	225,113	244,187	3,334,811	2,909,980	53,554	...	43,049	348,483	...	...	7,159,177
TOTAL OTHER STRUCTURAL MATERIALS..	$	679,111	1,430,358	12,715,749	13,368,965	2,349,339	535,175	1,900,659	3,010,156	...	...	35,987,512
TOTAL CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS	$	1,081,805	1,837,409	14,597,540	15,716,361	2,546,722	864,082	3,044,236	3,496,782	...	...	42,984,937
GRAND TOTAL - 1944	$	33,981,977	4,133,902	90,182,553	210,706,307	13,830,406	22,291,848	51,066,662	57,246,071	1,440,069	939,319	485,819,114
Metallics	$	224,921	...	51,582,006	183,941,161	10,384,532	18,508,269	1,965	42,102,841	807,147	939,319	308,292,161
Fuels	$	30,728,535	2,219,745	3,597	4,992,317	...	2,081,570	47,622,815	9,009,506	632,922	...	97,291,007
Other non-metallics	$	1,946,716	276,748	25,999,410	6,056,468	899,152	1,037,927	397,646	2,836,942	...	...	37,251,009
Clay products	$	402,694	207,051	1,881,791	2,347,396	197,383	330,907	1,143,577	486,626	...	...	6,997,425
Other structural materials	$	679,111	1,430,358	12,715,749	13,368,965	2,349,339	535,175	1,900,659	3,010,156	...	...	35,987,512
GRAND TOTAL - 1944	$	33,981,977	4,133,902	90,182,553	210,706,307	13,830,406	22,291,848	51,066,662	57,246,071	1,440,069	939,319	485,819,114
Per cent of total		6.99	.85	18.56	43.37	2.85	4.59	10.51	11.78	.31	.19	100.00
GRAND TOTAL - 1943	$	29,979,837	3,676,834	101,610,678	232,948,959	13,412,266	26,735,984	48,941,210	68,442,386	2,679,993	1,625,819	530,053,966
GRAND TOTAL - 1942	$	32,783,165	3,609,158	104,300,010	259,114,946	14,345,046	20,578,749	47,359,851	77,247,932	3,976,267	3,453,568	566,768,672
GRAND TOTAL - 1941	$	32,569,867	3,890,375	99,651,044	267,435,727	16,689,867	15,020,555	41,364,385	76,841,180	3,860,298	3,117,992	560,241,290

(a) Data not available.
(b) Includes cobalt in crude ores exported; cobalt in ores shipped from Government stock pile, and any cobalt recovered from Canadian ores at the Deloro smelter.
(x) Includes relatively large quantities used as a chemical.

MONTHLY PRODUCTION OF PRINCIPAL MINERALS IN CANADA, 1945 (x)

Month	Asbestos tons	Cement barrels	Clay Products $	Coal tons	Copper pounds
January	31,300	172,002	408,155	1,691,007	44,581,428
February	37,338	194,387	398,724	1,504,258	39,903,080
March	49,880	381,666	547,681	1,469,344	45,951,335
April	42,826	615,901	572,714	1,321,050	42,954,116
May	41,291	765,137	681,658	1,200,818	41,165,776
June	39,024	1,041,175	738,294	1,277,166	44,379,551
July	37,134	1,160,148	774,775	1,076,907	42,389,648
August	40,595	1,048,493	814,502	1,197,611	39,480,512
September	38,475	1,007,825	829,524	1,185,714	35,023,084
October	35,268	1,103,658	953,041	1,212,858	35,177,015
November	36,184	694,035	905,696	1,787,739	32,241,016
December	32,367	306,052	880,753	1,768,053	34,933,459
TOTAL	461,682	8,488,477	8,305,295	16,692,465	477,959,818

	Feldspar tons	Gold fine oz.	Gypsum tons	Lead pounds	Lime tons
January	1,159	233,210	12,933	25,625,743	64,895
February	1,848	212,351	12,898	24,578,012	62,522
March	2,233	228,687	16,504	35,169,939	72,467
April	1,935	225,737	24,771	28,172,344	73,221
May	2,079	217,556	43,749	25,555,454	72,661
June	3,490	212,163	103,726	25,175,850	72,361
July	2,115	210,209	82,461	25,505,404	70,681
August	2,973	211,754	98,990	28,127,996	68,717
September	2,553	211,529	132,350	29,175,590	68,277
October	2,253	229,550	150,722	32,824,497	75,122
November	3,507	220,755	110,000	35,143,737	89,534
December	2,954	239,749	50,489	34,627,509	70,747
TOTAL	29,099	2,651,250	839,593	349,680,075	861,205

	Natural Gas M cu.ft.	Nickel pounds	Petroleum barrels	Salt(/) tons	Silver fine oz.	Zinc pounds
January	5,780,541	23,770,268	881,821	23,583	1,019,590	49,506,177
February	5,081,834	20,724,884	778,828	22,787	952,225	44,520,588
March	4,579,865	23,514,627	779,534	23,226	1,199,546	47,697,156
April	4,363,245	21,661,372	692,889	25,884	1,054,327	45,385,577
May	3,960,784	23,484,009	715,851	28,896	1,198,527	45,427,551
June	3,451,616	22,644,417	672,888	29,518	1,099,541	43,469,170
July	3,338,463	23,893,945	696,723	27,580	951,548	45,197,460
August	3,348,063	21,991,592	685,030	28,798	1,055,488	41,520,857
September	3,696,816	16,506,248	657,259	28,614	962,889	38,459,108
October	4,336,672	17,244,911	682,803	29,246	1,036,259	38,859,858
November	5,297,540	15,483,999	658,722	31,401	1,096,306	40,609,351
December	5,738,260	15,276,195	666,869	24,696	1,153,013	40,213,452
TOTAL	52,973,699	246,196,467	8,569,197	324,229	12,778,859	518,866,285

(x) This information was compiled from monthly reports received from the principal operators. The totals for the calendar year do not, therefore, necessarily agree with those shown in the first table of this report.

(/) Commercial salt only.

ANTIMONY

Year	Production		Imports			
			Metal or Regulus		Salts	
	Pounds	$	Pounds	$	Pounds	$
1940	2,594,492	396,468	256,071	21,521	16,775	6,664
1941	3,185,077	445,911	2,240	423	47,549	23,147
1942	3,041,108	516,988	100	21	31,927	12,331
1943	1,114,166	189,408	240,700	38,755	10,990	6,066
1944	1,937,935	281,000	1,558,198	257,334	68,765	26,749
1945	1,680,000	292,656	1,034,792	172,253	102,518	36,728

The Consolidated Mining & Smelting Company of Canada Ltd. is the only producer of antimony metal in Canada. From time to time small quantities of antimony ores are exported for treatment by foreign smelters or refineries. It has also been exported in the form of silver-lead-bismuth bullion made from cobalt ores.

Antimony is used chiefly in alloys for storage battery plates, bearing and babbitt metals, solder, rubber goods and paints. The principal compound is the oxide of antimony which is employed extensively as a pigment in sanitary enamelware and nitrocellulose enamels.

ARSENIC

Year	Production		Exports	
	Pounds	$	Pounds	$
1940	2,093,275	62,798	1,127,100	33,362
1941	3,538,000	153,195	3,957,700	126,616
1942	14,967,874	652,041	8,386,300	226,018
1943	3,153,538	254,009	6,617,100	353,484
1944	2,627,022	180,866	5,997,500	306,891
1945	2,031,471	53,167	6,070,100	282,718

Imports

	1944		1945	
	Pounds	$	Pounds	$
White arsenic (arsenious oxide)	2,405	1,749	...	...
Soda, arseniate, biarseniate and stannate of ..	86,475	24,488	47,250	16,980
Arsenate of lead	...	...	...	...
Arsenate of lime	...	...	31,398	2,453

The Deloro Smelting and Refining Co. Ltd., Deloro, Ontario, produces refined arsenic. This plant was established to recover arsenic from the silver-cobalt ores of Ontario. Bag houses to extract arsenic from the fumes of roasting plants used in the recovery of gold from arsenical concentrates have been installed at the Beattie and O'Brien gold mines in western Quebec. Crude arsenic from the O'Brien mine is refined at the Deloro smelter. Beattie Gold Mines Ltd. normally produces refined arsenic. Arsenical gold concentrates are exported by British Columbia mines but no payment is made for the arsenic and the quantities are not included in the above totals.

BISMUTH

Year	Production		Imports		
			Metal		Salts
	Pounds	$	Pounds	$	$
1940	58,529	81,004	5	11	17,516
1941	7,511	10,396	100	149	12,445
1942	347,556	479,627	5	11	11,758
1943	407,597	562,484	...	...	15,675
1944	123,875	154,844	...	...	2,667
1945	210,000	287,700	5	11	11,264

The principal Canadian production of bismuth has for some years represented the metal recovered at Trail, British Columbia, by the Consolidated Mining and Smelting Co. of Canada Ltd. in the treatment of British Columbia silver-lead ores. A relatively small quantity of the metal is also contained in a silver-lead-bismuth bullion sometimes produced for export by the Deloro Smelting and Refining Company Ltd. from Ontario silver-cobalt ores.

CADMIUM

Year	Production		Exports	
	Pounds	$	Pounds	$
1940	908,127	1,056,152	798,710	879,711
1941	1,251,291	1,469,016	910,329	946,921
1942	1,148,963	1,355,776	800,710	855,618
1943	786,611	904,602	572,215	626,379
1944	526,970	579,667	383,524	412,352
1945	657,000	630,630	550,744	585,369

Cadmium production in Canada represents the recovery of the metal as a by-product in the electrolytic refining of zinc. Production comes entirely from the treatment of zinc-bearing ores by the Consolidated Mining and Smelting Company of Canada Ltd. at Trail, British Columbia, and by the Hudson Bay Mining & Smelting Company at Flin Flon, Manitoba.

Cadmium is consumed largely in the manufacture of alloys and for plating, also in the making of such pigments as cadmium lithopone, cadmium yellows, etc. A relatively large quantity of the metal is used in the production of bearing metals for high-speed internal combustion engines.

CHROMITE

Year	Production		Imports		
			Chrome Ore		Chrome Fire Brick
	Tons	$	Cwt.	$	$
1940	355	5,780	598,713	554,413	155,987
1941	2,372	42,679	1,859,047	1,460,209	227,721
1942	11,456	343,568	1,752,565	1,271,482	317,894
1943	29,595	919,878	2,069,422	2,121,228	256,993
1944	27,054	748,494	781,772	618,251	437,980
1945	5,662	148,970	1,213,820	1,154,985	448,440

The improvement in the allied supply situation which started in 1943 continued to such an extent that all chromite mining operations in Canada ceased in 1945. Most of the deposits from which

production has been obtained in Canada are between Quebec city and Sherbrooke in the eastern townships of Quebec.

Chromium is one of the principal alloying elements in a great variety of steels, chief of which, in the amount of chromium used, are the highly important stainless and corrosion-resistant steels. Large quantities of chromite, with certain specifications as to physical and chemical properties, are used in the making of refractories.

The world production of chromite just prior to World War II was about 1,300,000 tons. Russia, Turkey and Southern Rhodesia were each producing 200,000 tons or more a year, while South Africa, the Philippines, Cuba, New Caledonia, Yugoslavia, Greece and India were each producing 50,000 tons or more.

COBALT

Production

Year	Pounds	$
1940	794,359	1,235,220
1941	265,257	255,904
1942	83,871	88,444
1943	175,961	191,407
1944	36,235	34,106
1945	109,123	90,026

Imports and Exports

	1944		1945	
	Pounds	$	Pounds	$
Imports -				
Cobalt ore	3,676,400	1,327,775	2,390,000	869,415
Cobalt oxides	1,720	2,595	16,072	22,390
Exports -				
Cobalt contained in ores	25,900	24,379	65,000	57,119
Cobalt, metallic	1,009,068	1,665,984	583,334	954,257
Cobalt alloys	176,589	789,202	321,047	1,247,249
Cobalt oxide and salts	462,656	829,469	555,522	975,055

Production of cobalt from Canadian ores, as computed by the Dominion Bureau of Statistics, represents the cobalt contained in Ontario ores exported plus the sales of cobalt metal and cobalt in oxides and salts, which may have been extracted from Ontario ores by the Deloro Smelting and Refining Company Ltd. at Deloro, Ontario.

Production from the Cobalt and other areas of northern Ontario has been largely maintained in recent years by lessees working over old surface dumps and mining narrow surface veins and old underground workings. Deloro Smelting and Refining Company Limited has the only plant in Canada that treats ores for the recovery of cobalt. The plant produces cobalt metal, oxides and salts, chiefly for the British market. For the past three years the Company has been treating cobalt residues from Africa, and has processed little or no Canadian ores. The Canadian production of cobalt ore in 1943 was purchased by the Company as agent for the United States Metals Reserve Company and was stockpiled at Deloro for this account. This arrangement was terminated in December, 1943. About 75 per cent of the world production of cobalt is used in the metallurgical industry and most of the remainder in the ceramic industry. The greater part of world cobalt production now comes from the Belgian Congo and Northern Rhodesia.

COPPER

Production (All Sources)

Year	Quebec		Ontario		Manitoba	
	Pounds	$	Pounds	$	Pounds	$
1940	134,166,955	13,532,079	347,931,013	34,742,229	75,267,957	7,591,524
1941	143,783,978	14,502,052	333,829,767	33,192,644	67,018,565	6,759,492
1942	140,911,876	14,212,372	308,282,414	30,625,404	47,595,586	4,800,491
1943	131,165,776	15,411,744	277,840,560	32,232,027	38,014,872	4,466,747
1944	108,055,172	12,966,620	285,307,278	33,845,652	43,878,659	5,285,457
1945	107,638,064	13,508,577	256,547,675	29,387,567	40,100,000	5,032,550

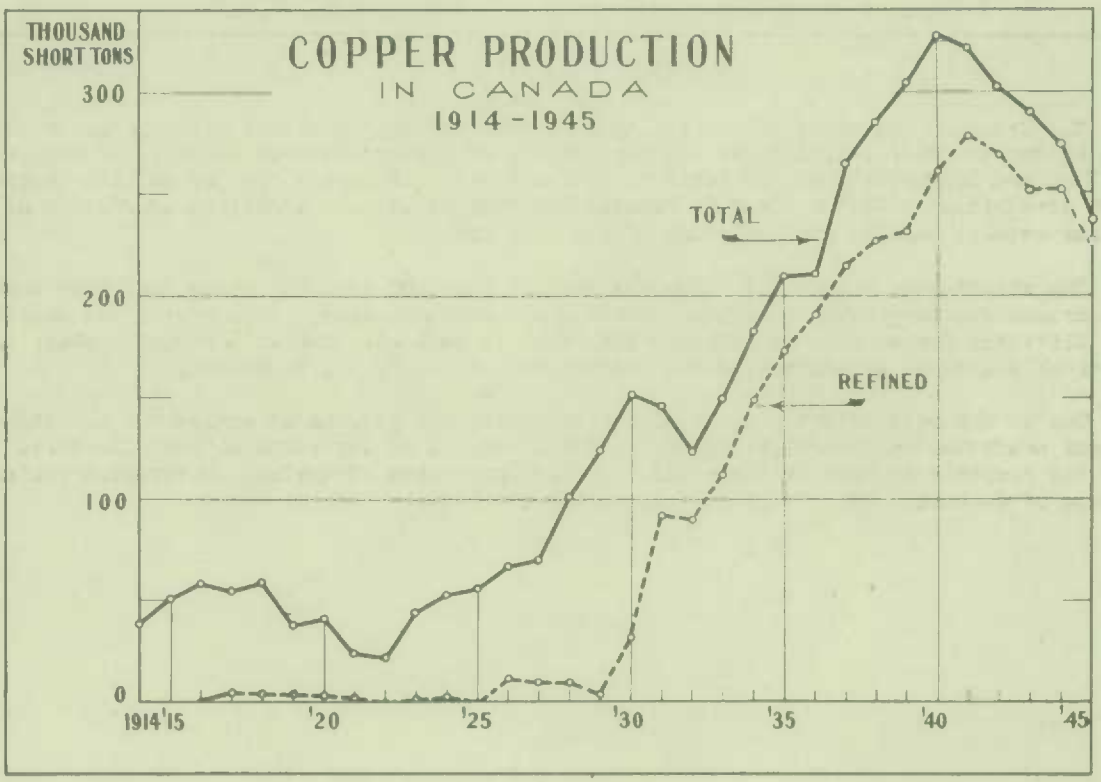
	Saskatchewan		British Columbia		C A N A D A	
1940	20,484,954	2,066,112	77,742,582	7,841,117	655,593,441	65,773,061
1941	32,324,512	3,260,250	66,527,166	6,689,758	645,516,713(x)	64,407,497(x)
1942	56,781,466	5,726,979	50,015,521	5,044,565	603,661,826(x)	60,417,372(x)
1943	85,948,719	10,098,974	42,222,205	4,961,109	575,190,152	67,170,601
1944	73,514,499	8,821,740	56,302,628	4,356,315	547,070,118(x)	65,257,172(x)
1945	66,400,000	8,333,200	25,799,009	3,237,776	476,284,746	59,499,670

(x) Includes:	Northwest Territories	
1941	32,727	3,301
1942	74,963	7,561
1944	11,902	1,428

PRODUCTION OF REFINED COPPER IN CANADA (x)

Year	Tons	Year	Tons
1936	191,595	1941	278,224
1937	215,080	1942	268,447
1938	227,240	1943	251,495
1939	251,684	1944	256,244
1940	261,878	1945	227,486

(x) Including both primary and secondary.



Imports

	1944		1945	
	Pounds	$	Pounds	$
Copper in blocks, pigs and ingots	4,500	762	100	23
Copper, scrap	26,700	2,604	989	8,957
Copper in bars or rods for the manufacture of trolley, telegraph and telephone wires, electric wires and electric cables	578,400	87,325	2,526,700	383,611
Copper bars or rods, n.o.p.	193,300	41,581	202,400	43,625
Copper in strips, sheets or plates	165,400	49,657	163,100	43,883
Copper tubing, not manufactured	375,731	133,802	605,163	201,857
Copper rollers	...	1,289	...	45,320
Copper wire, n.o.p.	90,248	49,850	275,902	110,181
Copper wire cloth, woven	...	475	...	1,274
Copper manufactures, n.o.p.	...	274,771	...	346,990
Copper sub-acetate	440	140	400	124
Copper sulphate (blue vitriol)	8,259,600	491,473	6,518,854	417,608
TOTAL	...	1,133,728	...	1,603,647

Exports

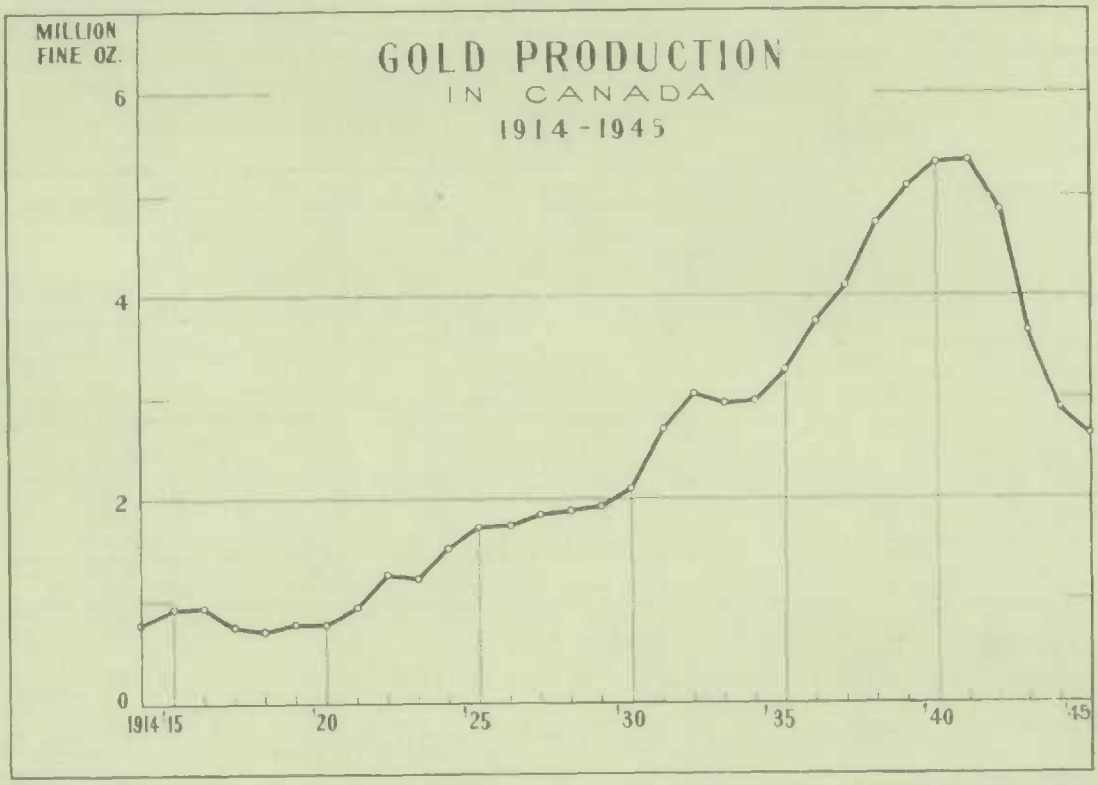
	1944		1945	
	Pounds	$	Pounds	$
Copper, fine, contained in ore, matte, regulus, etc.	55,978,500	3,918,495	38,589,200	2,701,244
Copper, blister	...	...	...	...
Copper, old and scrap	1,927,400	116,899	2,875,700	231,505
Copper in ingots, bars, cakes, slabs and billets	270,466,200	29,049,257	258,698,600	32,098,264
Copper in rods, strips, sheets, plates and tubing	36,126,900	4,193,044	14,561,700	1,956,339
Copper wire and cable, insulated	...	2,300,550	...	3,067,192
Copper wire, bare	...	1,018,940	...	740,220
Copper wire, screen	...	8,332	...	10,912
Copper manufactures, n.o.p.	...	38,426	...	53,948
TOTAL	...	40,543,943	...	40,859,624

The Canadian output of copper is obtained from the copper-nickel ores of the Sudbury area in Ontario; the copper-gold, copper-zinc, and copper pyrites ores of western Quebec; the copper-zinc ores of the Flin Flon and Sherridon areas of northern Manitoba; and the copper ores of British Columbia. Most of the copper ores mined in Canada occur in association with or contain important quantities of one or more of the other metals, chiefly gold, silver, nickel and zinc.

The all-time peak Canadian copper production occurred in 1940; since that year there has been a gradual decrease due largely to a wartime shortage of skilled labour. Copper ores are smelted in Canada at Copper Cliff and Coniston in Ontario; at Flin Flon in Manitoba, and at Noranda, Quebec; the metal is electrolytically refined at Montreal East, Quebec, and at Copper Cliff, Ontario.

One of the most interesting developments during the year under review was an extensive exploration program conducted by Quemont Mining Corporation Ltd. on an important copper-gold-silver deposit adjoining the property of Noranda Mines Ltd., in the Rouyn area of Quebec. Government restrictions on the purchase of domestic copper were removed in August, 1945.

G O L D



Production

Year	Fine ounces	$
1940	5,311,145	204,479,083
1941	5,345,179	205,789,392
1942	4,841,306	186,390,281
1943	3,651,301	140,575,088
1944	2,922,911	112,532,073
1945	2,661,567	102,470,330

PRODUCTION OF GOLD IN CANADA, BY PROVINCES, 1944 and 1945

	1944		1945	
	Fine ounces	$	Fine ounces	$
Nova Scotia	5,840	224,840	3,378	130,053
Quebec -				
Gold mines	519,679	20,007,642	457,806	17,625,531
Base metal mines	227,105	8,743,542	206,420	7,947,170
Total Quebec	746,784	28,751,184	664,226	25,572,701
Ontario -				
Gold mines: Porcupine	873,062	33,612,887	822,985	31,684,923
Kirkland Lake	383,239	14,754,702	368,665	14,193,602
Larder Lake	115,021	4,428,308	108,724	4,185,874
Matachewan	28,636	1,102,486	34,685	1,335,373
Sudbury	50	1,925	...	...
Algoma	37	1,425	...	...
Thunder Bay	100,827	3,881,839	49,015	1,887,077
Patricia	175,658	6,762,833	137,186	5,281,661
Other mines	50,306	2,129,281	69,079	2,659,542
Total Ontario	1,731,836	66,675,686	1,590,339	61,228,052

PRODUCTION OF GOLD IN CANADA, BY PROVINCES, 1944 and 1945
(Concluded)

	1944		1945	
	Fine ounces	$	Fine ounces	$
Manitoba -				
Gold mines	40,669	1,565,757	37,903	1,459,266
Other mines	33,499	1,289,711	29,000	1,116,500
Total Manitoba	74,168	2,855,468	66,903	2,575,766
Saskatchewan -				
Gold mines	5	192	...	...
Other mines	122,777	4,726,915	109,000	4,196,500
Total Saskatchewan	122,782	4,727,107	109,000	4,196,500
Alberta (Placer)	51	1,963	7	270
British Columbia -				
Gold mines (lode)	168,520	6,488,020	161,035	6,199,848
Gold mines (placer)	9,402	361,977	12,140	467,390
Other mines	18,935	728,997	15,205	585,392
Total British Columbia	196,857	7,578,994	188,380	7,252,630
Northwest Territories -				
Gold mines	20,775	799,838	8,757	336,374
Yukon (Chiefly placer)	23,818	916,993	30,597	1,177,984
TOTAL CANADA	2,922,911	112,532,073	2,661,567	102,470,330

EMPLOYEES IN GOLD MINES AND IN BASE METAL MINES AND SMELTERS, 1942-1945

Month	Gold Mines (x)						Non-ferrous metal mines, smelters and refineries (x)			
	Non-Producing		Producing							
	1944	1945	1942	1943	1944	1945	1942	1943	1944	1945
						(Number)				
January	880	622	27,020	21,097	16,444	15,464	34,577	46,323	45,835	34,932
February	513	709	27,450	20,626	17,116	15,362	35,033	46,621	44,837	33,956
March	522	644	27,527	20,405	17,788	15,326	35,217	46,968	44,255	34,270
April	403	753	27,059	19,711	16,969	14,802	35,817	46,137	42,030	34,607
May	323	946	26,948	19,197	16,705	14,439	37,017	45,499	41,467	33,001
June	319	781	26,492	18,774	16,494	14,311	39,077	46,754	41,239	32,734
July	536	798	25,617	18,087	16,164	14,453	40,112	46,888	41,181	31,682
August	518	924	23,957	17,428	15,904	14,544	39,858	46,471	38,782	30,497
September	398	890	22,841	16,511	15,526	14,978	40,109	45,354	37,855	27,461
October	326	844	21,622	16,058	15,067	14,173	42,234	45,168	36,871	27,502
November	569	978	20,960	15,889	15,314	17,017	43,364	46,231	37,454	27,144
December	648	699	20,716	16,057	15,405	17,621	44,611	45,783	35,570	25,800

(x) Includes only firms employing 15 or more persons.

The origin of Canadian gold production is varied, the metal being recovered from stream channels, auriferous quartz ores, copper-gold-silver ores, and nickel-copper and silver-lead-zinc ores. Approximately 80 per cent of the Canadian gold output represents gold bullion produced at auriferous quartz lode mines. After several years of declining production, the results of conditions arising from the war, the outlook for gold mining is improving. The recent lifting of restrictions on development work has largely cleared the way for expansion of activities, though it will probably be some time before sufficient skilled labour and supplies become available to enable the industry to greatly extend its operations. Aside from the producing mines, attention has been centred chiefly on exploratory work which has been exceptionally active during the past year or more, especially in Quebec, Ontario, Manitoba and the Northwest Territories. The Bureau of Mines, Ottawa, reports that from the results of this work to date it is apparent that many properties will be added to the list of producers in due course, on some of which large deposits have been disclosed.

IRON ORE

Production

Year	Short tons	$
1940	414,603	1,211,305
1941	516,037	1,426,057
1942	545,306	1,517,077
1943	641,294	2,052,240
1944	553,252	1,909,608
1945	1,134,808	3,265,521

Commercial shipments of iron ores were made in 1945 from the New Helen mine of Algoma Ore Properties Limited in the Michipicoten area of Ontario, and from the hematite property of Steep Rock Iron Mines near Atikokan, Ontario. The New Helen ore is beneficiated in Algoma Ore Properties sintering plant at Wawa, Ontario. It was reported in September 1945 that milling tests were being conducted by Michipicoten Iron Mines Limited on the ore of the Josephine mine; this property is located some 20 miles from Michipicoten Harbour, Algoma district, Ontario, and it is understood that the output from this mine has been contracted for by Algoma Ore Properties Limited. Since 1936, Labrador Mining and Exploration Company, the control of which was acquired in 1943 by Hollinger Consolidated Gold Mines Limited, has been making extensive surveys and doing exploratory work on large iron deposits near Sawyer Lake and vicinity, along the Quebec-Labrador boundary; complete details are not available on the deposits, though one deposit with a known width in some places of 550 feet and a known length of 3,900 feet has been disclosed.

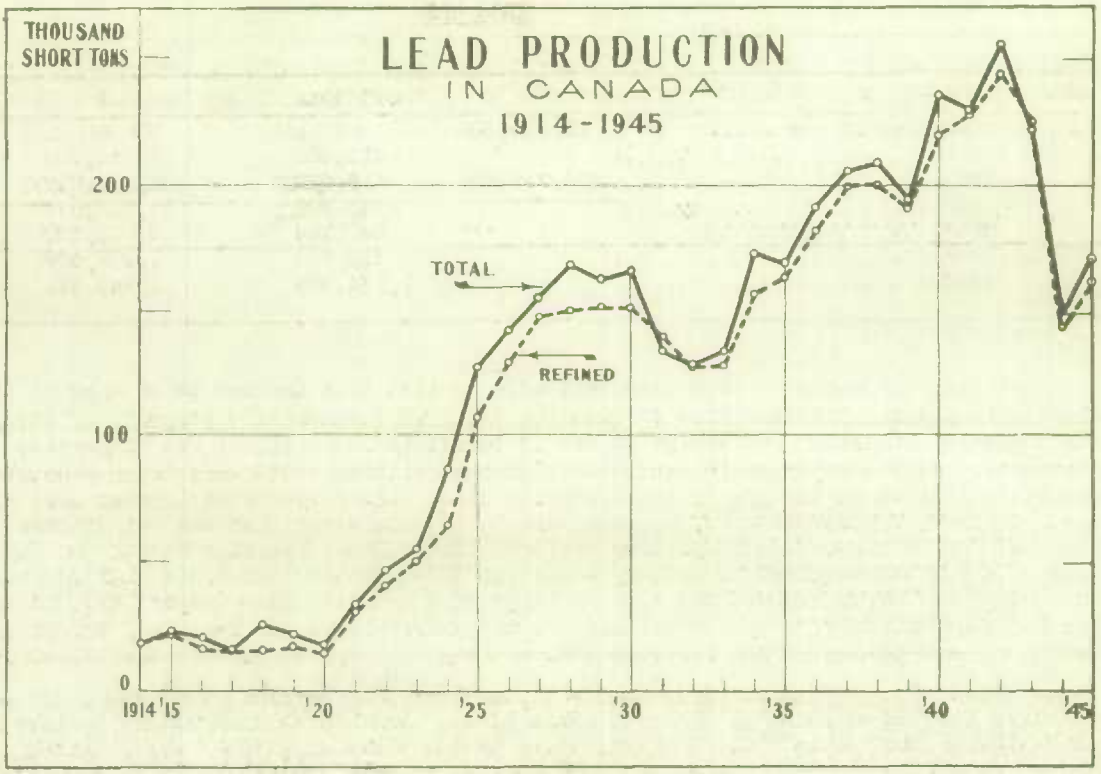
Pig iron is produced in Canada by the Dominion Steel and Coal Corporation Ltd. at Sydney, Nova Scotia; the Steel Company of Canada Limited, Hamilton, Ontario; the Canadian Furnace Co. Ltd., Port Colborne, Ontario, and the Algoma Steel Corporation at Sault Ste. Marie, Ontario. Consumption of iron ore totalled 3,151,366 short tons in 1945, of which 179,676 tons came from Canadian mines.

Month	Production of Pig Iron			Production of Steel Ingots and Castings		
	1943	1944	1945	1943	1944	1945
	(short tons)					
January	116,527	132,128	155,969	207,008	242,186	268,722
February	138,240	141,878	149,487	245,588	229,852	250,464
March	160,101	168,047	165,817	270,962	275,539	277,461
April	150,486	170,364	156,070	264,357	260,825	274,213
May	154,746	175,207	155,574	271,737	263,451	267,643
June	147,889	161,899	159,046	239,501	240,750	257,115
July	151,369	166,004	150,387	250,508	234,418	229,161
August	164,906	151,452	139,812	246,820	246,755	224,928
September	147,902	145,406	135,227	241,255	242,725	198,508
October	146,794	154,119	140,693	271,976	275,524	205,846
November	142,249	146,972	134,651	259,444	268,923	207,981
December	137,256	139,152	135,225	227,822	243,482	219,281
TOTAL	1,758,265	1,852,628	1,777,958	2,996,978	3,024,410	2,881,523

L E A D

The mines of British Columbia account for a large part of Canada's lead output, the Sullivan mine, owned by the Consolidated Mining & Smelting Co. Ltd. being by far the largest producer. In addition to the lead produced by this company, certain mines in British Columbia export lead concentrates, and concentrates are also exported from mines in Quebec, Ontario, and to a small extent from the Mayo camp of Yukon.

The Canadian lead situation was such that all restrictions on the purchase of lead in Canada were removed on August 27, 1945 by rescinding order No. M.C. 11E.



Production

Year	Pounds	$
1940	471,850,256	15,863,605
1941	460,167,005	15,470,815
1942	512,142,562	17,218,233
1943	444,060,769	16,670,041
1944	304,582,198	13,706,199
1945	345,455,080	17,119,705

Imports

	1944		1945	
	Pounds	$	Pounds	$
Old and scrap, pig and block	26,321	3,150	53,988	4,370
Bars and sheets	10,156	1,504	29,586	3,927
Litharge	3,155,100	266,530	5,528,100	515,555
Acetate of lead	131,876	16,998	154,521	14,428
Nitrate of lead	303,265	36,658	146,362	15,244
Other manufactures, n.o.p.	...	382,455	...	326,102
Lead pipe	2,533	528	...	...
Shots and bullets	15,721	2,479	1,393	298
Lead arsenate	...	...	...	...
Lead tetraethyl, compounds of	10,033,373	3,378,702	12,030,857	4,056,553
Lead capsules for bottles	...	16,019	...	126
Lead pigments -				
Dry white lead	336,000	29,890	128,080	11,757
White lead, ground in oil	180	23	2,112	150
Dry red lead and orange mineral	400,392	39,175	64,289	7,497
TOTAL	...	4,174,111	...	4,756,005

Exports

	1944		1945	
	Pounds	$	Pounds	$
Lead, metallic, contained in ore	19,000,300	650,433	15,668,200	575,690
Pig lead	205,759,600	6,394,550	214,583,600	8,605,049
TOTAL	...	7,044,983	...	9,176,739

MAGNESIUM

Production

Year	Pounds	$
1941	10,905	2,944
1942	808,718	355,836
1943	7,153,974	2,074,652
1944	10,579,778	2,575,695
1945	7,449,367	1,463,892

Production of magnesium metal in Canada during 1945 came entirely from the plant of Dominion Magnesium Limited located at Haley's, Ontario. This plant, owned by Wartime Metals Corporation, was sold to Dominion Magnesium Limited in 1945, and activities at the works at midyear were limited chiefly to alterations and experimental work. It is also interesting to note that metallic calcium was produced at the Haley's plant during the year under review. The ferrosilicon process used by Dominion Magnesium Limited involves the mixing together of ferrosilicon, calcined dolomite, and a catalyst, briquetting the mixture, and charging the briquettes to externally-heated retorts operating under a vacuum. The magnesium vapour is condensed on the sides of a water-cooled condenser and is removed as a ring or crown of pure, solid metal.

MANGANESE ORE

There has been no production of manganese ores in Canada since 1943. Most of the 200 deposits of manganese known in Canada are in the Maritime Provinces. They are mostly low-grade replacement or bog deposits, and a small amount of high-quality ore has been mined in only a few localities. It is estimated that over 90 per cent of the world consumption of manganese ore is used in the manufacture of iron and steel.

Imports (Oxide of Manganese)

Year	Tons	$
1940	70,460	777,416
1941	104,474	1,170,768
1942	57,389	860,248
1943	51,234	1,445,252
1944	85,795	2,370,109
1945	198,277	4,571,592

The leading world producers of manganese ore are Russia, British India, Gold Coast, United States, Union of South Africa, Brazil and Cuba.

MERCURY

Production and Imports

Year	Imports		Production	
	Pounds	$	Pounds	$
1940	78,597	202,106	155,830	369,517
1941	8,599	24,241	536,304	1,335,697
1942	1,971	6,378	1,035,914	2,943,807
1943	2,047	6,981	1,690,240	4,559,200
1944	35,425	44,171	735,908	1,210,375
1945	27,101	32,924	...	...

Prior to the outbreak of the war there was practically no production of mercury in Canada. Fortunately, as a result of the work of the Canadian Geological Survey in 1937, a cinnibar-bearing deposit was discovered at Pinchi Lake, about 40 miles north of Vanderhoof Station, British Columbia, on the Canadian National Railway. The claims were optioned to the Consolidated Mining and Smelting Company Ltd., who proceeded to develop them. The successful operation of this mine has brought about a complete change in the Canadian situation with respect to this metal. The output was far in excess of Canadian requirements and due to a world oversupply, production ceased during 1944.

The production of mercury was also commenced in November 1943 by Bralorne Mines Ltd. at Takla, 85 miles northwest of the Pinchi mine; operations also ceased at this property in September 1944. Late in the summer of 1944 mercury prices increased appreciably and some mercury mines in the United States were re-opened. For many years Italy and Spain were the leading mercury producing countries.

MOLYBDENITE

Production (Molybdenite concentrates)

Year	Concentrates Shipped	
	Tons	$
1940	11.1	10,280
1941	98.3	88,470
1942	114.0	134,965
1943	392.3	549,515
1944	1063.7	1,079,698
1945	488.0	419,747

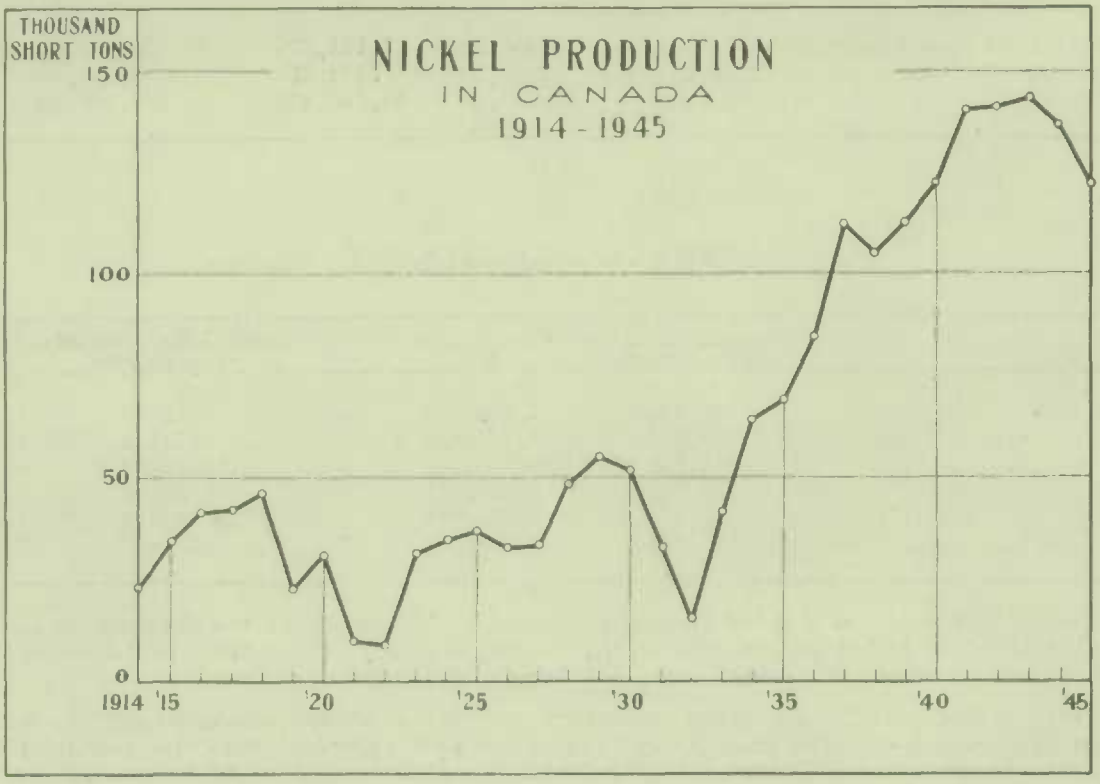
Canadian production of molybdenite concentrates in 1945 came entirely from the LaCorne mine in LaCorne township, Quebec. Wartime Metals Corporation took over the LaCorne mine in July 1942 and made arrangements for Siscoe Gold Mines Limited to operate the property; in July 1945 the operation of the mine was taken over by the Molybdenite Corporation of Canada Limited.

Prior to the late war, 91 per cent of the world production, estimated at 16,500 tons of metallic molybdenum, came from the United States. The Metals Controller's contract to purchase all Canadian molybdenum products at a bonus price of not less than 85 cents a pound of contained sulphide in concentrate f.o.b. Ottawa, was terminated on December 31, 1943, owing to changed conditions. The greater part of molybdenum produced is used in the steel industry.

NICKEL

Canadian nickel production comes almost entirely from the two major producing companies—The International Nickel Company of Canada Limited and the Falconbridge Nickel Mines Limited. During recent years a considerable amount of development work on nickel-bearing deposits has been conducted by other companies and a relatively small quantity of ore was shipped from these properties. All active Canadian nickel mines are located in or near the Sudbury district of Ontario. The International Nickel Company of Canada Limited operates smelters and a copper refinery near Sudbury and a nickel refinery at Port Colborne, Ontario. It also has works at Huntington, West Virginia, U.S.A., and at Clydach, Wales. The smelter of

Falconbridge Nickel Mines Limited is also located near Sudbury, Ontario, and matte produced during the war was treated by the International Nickel Company of Canada Limited; in 1945 matte shipments to the company's refinery located at Kristiansand, Norway, were resumed.



Production

Year	Pounds	$
1940	245,557,871	59,822,591
1941	282,258,235	68,656,795
1942	285,211,803	69,998,427
1943	288,018,615	71,675,322
1944	274,598,629	69,204,152
1945	243,956,502	61,838,259

Imports and Exports

	1944		1945	
	Pounds	$	Pounds	$
Imports -				
Rods containing 90 per cent or more of nickel for the manufacture of electrode wire for spark plugs	12,882	8,853	12,558	8,978
Nickel, nickel-silver and German silver in ingots, etc., n.o.p.	16,029	4,355	25,277	7,342
Nickel and nickel alloys, shapes, tubes, etc., exclusive of anodes	753,147	391,353	1,357,478	697,664
Nickel-silver and German silver bars, etc.	3,709	1,739	49,815	14,397
Nickel-chromium bars and rods of a kind not manufactured in Canada, for electric resistance wire, etc.	63,215	54,973	79,403	72,865
Nickel, German, Nevada silver manufactures, not plated	...	33,411	...	27,101
Nickel plated ware, n.o.p.	...	424,247	...	652,396

Imports and Exports (Concluded)

	1944		1945	
	Pounds	$	Pounds	$
Exports -				
Nickel contained in matte or speiss ...	67,696,500	12,185,370	56,590,500	10,186,290
Nickel contained in oxide	2,483,200	574,857	3,516,400	808,715
Nickel, fine	195,017,400	55,640,407	156,336,400	43,783,221

METALS OF THE PLATINUM GROUP

Production

Year	Platinum		Palladium, Rhodium, Iridium, etc.	
	Fine ounces	$	Fine ounces	$
1940	108,488	4,240,362	91,522	3,520,746
1941	124,317	4,750,153	97,432	3,396,304
1942	285,228	10,898,561	222,573	8,279,221
1943	219,713	8,458,951	126,004	5,233,068
1944	157,523	6,064,635	42,929	1,960,085
1945	162,000	6,237,000	155,600	6,482,719

Canada is one of the world's largest producers of the metals of the platinum group. They occur in association with the nickel-copper ores of the Sudbury district of Ontario. Residues containing these metals are treated at Acton, England; Newark, New Jersey, and Toronto, Ontario.

Prior to 1945 the figures given above were the refined metals recovered and the contents of concentrates sold each year. The preliminary figures for 1945 represent the metal content of platinum metals concentrates produced, together with adjustment of previous figures to this basis for the years through 1944.

Imports

		1944		1945	
			$		$
Platinum wire, bars, etc., platinum, palladium, iridium, osmium, ruthenium and rhodium in lump, ingots, powder, sponge or scrap		...	61,992	...	4,061,357
Platinum crucibles		...	12,786	...	5,674
Platinum retorts, pans, condensers, etc., and preparations for the manufacture or concentration of sulphuric acid		...	24,603	...	15,659
Platinum and black oxide of copper for manufacture of chlorate and colours	lb.	400	290	500	302

Exports

		1944		1945	
			$		$
Platinum and other metals of the platinum group contained in concentrates, etc.		...	6,769,237	...	13,297,660
Platinum, old and scrap	oz.	204	7,271	...	16,315

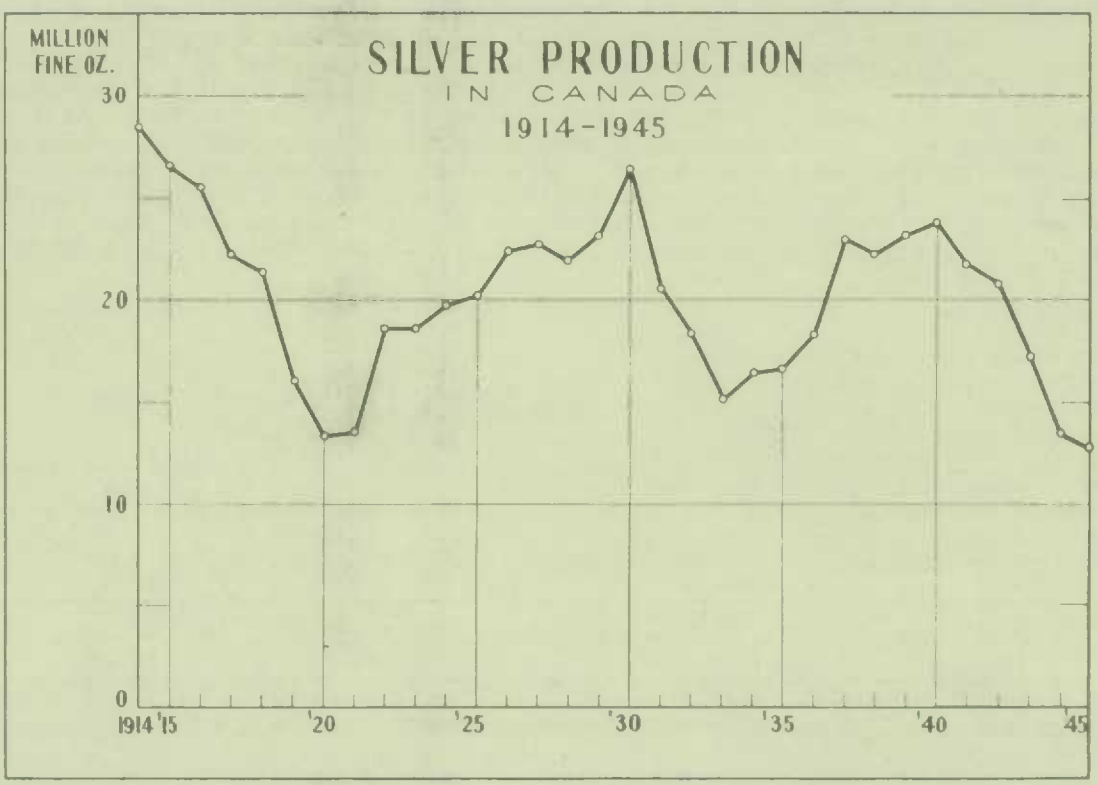
SELENIUM

Production

Year	Pounds	$
1940	179,860	343,533
1941	406,930	777,256
1942	495,369	951,108
1943	574,015	654,525
1944	298,592	537,466
1945	419,000	720,750

Selenium production in Canada represents a by-product in the electrolytic refining of blister copper made from Quebec, Ontario, Manitoba and Saskatchewan ores. It is recovered at Copper Cliff, Ontario by the International Nickel Company Limited, and at Montreal East, Quebec, by the Canadian Copper Refiners Ltd. The United States and Canada are the principal sources of supply, though small quantities are produced by several other countries, including Russia, Japan, Rhodesia, Mexico and Sweden. The chief uses of selenium are in the glass and pottery industries, both as a colouring agent (as in ruby glass), and to neutralize the effect of objectionable oxides. The greatest single development in the utilization of selenium during the war was its use in electrical rectifiers which were employed in radar and aeroplane and army field equipment.

SILVER



Production

Year	Fine ounces	$
1940	23,833,752	9,116,172
1941	21,754,408	8,323,454
1942	20,695,101	8,726,296
1943	17,344,569	7,849,111
1944	13,627,109	5,859,656
1945	12,866,597	6,000,605

Imports

	1944		1945	
	Fine ounces	$	Fine ounces	$
Silver, manufactures of, n.o.p., and articles consisting wholly or in part of sterling or other silverware	...	36,296	...	57,423
Toilet articles of which the most important component, in value, is sterling silver	...	53	...	4,189
TOTAL	...	36,349	...	61,612

Exports

	1944		1945	
	Fine ounces	$	Fine ounces	$
Silver contained in ore, concentrates, etc.	2,389,739	1,170,475	2,232,405	1,153,796
Silver bullion (Canadian)	3,577,243	1,762,944	2,723,698	1,443,814
TOTAL	5,966,982	2,933,419	4,956,103	2,597,010

Primary silver is produced in every province in the Dominion with the exception of Prince Edward Island and New Brunswick. The Nova Scotia output is small and is derived entirely as a by-product in the treatment of gold ores. In Quebec it is recovered chiefly in the smelting and refining of copper-gold-silver ores; lesser quantities are contained in gold bullion produced at gold mines and in silver-lead concentrates exported. The principal source of the metal in Ontario is the copper-nickel ores of the Sudbury district; a considerable quantity is also recovered in the refining of gold bullion and a diminishing amount obtained from silver-cobalt ores. The Flin Flon and Sherritt-Gordon mines are the most important sources in Manitoba and Saskatchewan. British Columbia is by far the most important silver producing province with the output originating chiefly in the great Sullivan silver-lead-zinc mine located at Kimberley. Small quantities of silver are also obtained from ores mined in Yukon and Northwest Territories. In September 1945 the office of the United States Price Administration raised the ceiling price of foreign silver from 45 cents a fine ounce to 71.111 cents. Canadian silver as of October 1945 was sold in Canada at 40 cents per ounce; silver in all forms (bullion, ores, etc.), was under export permit designed to see that the Canadian consumer was protected as to his supply, after which all excess could be exported to foreign markets; silver in ores exported to the United States was paid for by United States smelters in the usual way.

TELLURIUM

Production

Year	Pounds	$
1940	3,491	5,607
1941	11,453	18,394
1942	11,084	17,735
1943	8,600	15,050
1944	10,661	18,657
1945	42,000	59,000

Tellurium is recovered as a by-product in the treatment of anode or blister copper by the Canadian Copper Refiners at Montreal East, Quebec, and by the International Nickel Company of Canada Ltd. at Copper Cliff, Ontario. Tellurium is used as a hardening and strengthening agent in lead and its alloys. It is also employed in the manufacture of rubber products, its function being to increase tensile strength and resistance to abrasion. A new use for tellurium is as a carbon stabilizer in cast iron, in which case it is used in the form of ferrotellurium.

T I N

Production

Year	Pounds	$
1941	64,744	33,667
1942	1,237,863	643,689
1943	776,937	450,623
1944	516,626	299,643
1945	850,000	484,500

Imports

	1944		1945	
	Pounds	$	Pounds	$
Tin in blocks	2,682,300	1,767,779	7,195,000	4,985,254
Tinfoil	1,625,265	217,978	136,006	17,515
Collapsible tubes	...	192,361	...	121,598

Cassiterite occurs with the silver-lead-zinc ores of the Sullivan mine, Kimberley, British Columbia, and is recovered from the zinc tailings. Cassiterite occurs also in several other places in Canada, but no commercial deposits have so far been found.

The tin concentration plant of the Consolidated Mining and Smelting Company Ltd., at Kimberley commenced operations on March 1, 1941. The plant for the production of refined tin was in commercial operation in April, 1942. The tin content of the ore and its recovery are relatively small.

TITANIUM ORE

Production

Year	Pounds	$
1940	4,535	24,510
1941	12,651	49,110
1942	10,031	50,906
1943	69,437	308,290
1944	33,973	165,195
1945	13,306	64,666

All known occurrences of titanium in Canada of possible economic interest are located in Quebec and Ontario. For some years ilmenite containing from 18 to 25 per cent titanium has been mined at St. Urbain in Charlevoix county, Quebec; rutile is contained in the St. Urbain deposits.

The chief use of ilmenite is in the manufacture of white pigment, and it is used also to a smaller extent for making ferro-alloys. Titanium is not only an effective deoxidizer and cleaning agent, but also an alloying element. Rutile is used chiefly in welding rod coatings, and in the ceramic industry.

TUNGSTEN (Concentrates)

No important commercial production of tungsten concentrates was reported in Canada during 1945. The increased demand for tungsten during the war resulted, until 1944, in the recovery of tungsten minerals from Canadian gold ores, and at Nelson in British Columbia an important tungsten deposit was developed at the Emerald mine; operations at this property were discontinued in September 1943. Scheelite was also produced in important quantities by the Consolidated Mining & Smelting Company of Canada Ltd. at the Red Rose mine near Hazelton, British Columbia; this mine was closed in October 1943. Tungsten, as an alloying

metal, is used essentially to impart hardness and toughness to steel, particularly tool steels. China has been the chief source of tungsten ores. No tungsten concentrates were commercially produced in Canada during 1945.

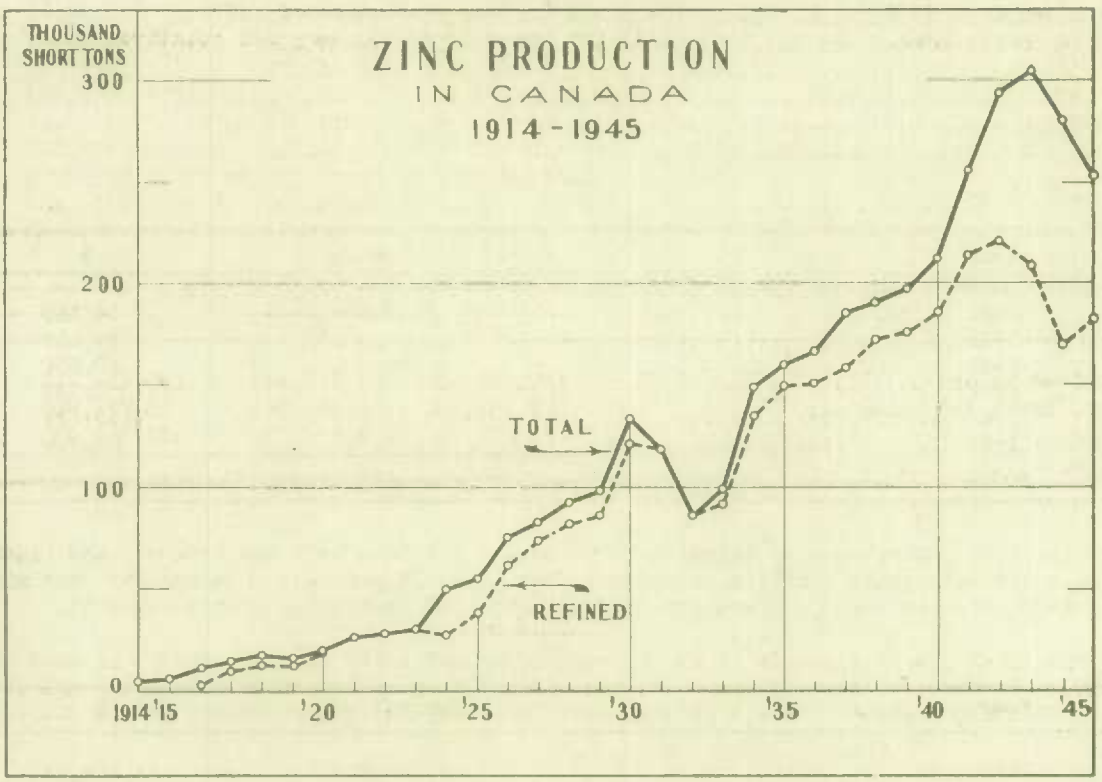
Production

Year	Pounds	$
1940	12,002	7,305
1941	82,846	38,712
1942	520,991	406,275
1943	1,508,621	1,083,538
1944	886,745	245,780
1945	...	...

Imports

	1944		1945	
	Cwt.	$	Cwt.	$
Tungsten-bearing ores	...	...	39	5,362
Tungsten carbide, in tubes	...	2,782	...	10,987

ZINC



Statistics of Canadian zinc production represent the quantity of new refined zinc produced from Canadian ores at Trail, British Columbia, by the Consolidated Mining and Smelting Company of Canada Limited, and at Flin Flon, Manitoba, by the Hudson Bay Mining and Smelting Co. Limited, together with the zinc contained in ores or concentrates exported. Production in British Columbia, the largest zinc-producing province, comes almost entirely from silver-lead-zinc ores. In Quebec, Manitoba and Saskatchewan, the metal is recovered chiefly from copper-gold-silver-zinc ores. Zinc-bearing concentrates produced from silver-lead-zinc or other complex ores are also exported from Ontario, Quebec and British Columbia. On May 11, 1942, an order (M.C.12) was issued which prohibited any person from buying or

selling zinc without a permit from the Metals Controller. As the war continued, amendments were made to include zinc oxide and zinc mill products; on June 7, 1945 the control of zinc oxide and zinc dust was removed by Order M.C. 12E, and only an inventory control was retained on slab zinc. In August 1945 Order No. M.C. 12E was rescinded and restrictions on the purchase of zinc were removed.

Production

Year	Pounds	$
1940	424,028,862	14,463,624
1941	512,381,636	17,477,337
1942	580,257,373	19,792,579
1943	610,754,354	24,430,174
1944	550,823,353	23,685,405
1945	509,638,004	31,350,307

Imports

	1944		1945	
	Pounds	$	Pounds	$
Zinc dust	40,200	4,089	45,800	5,872
Zinc in blocks, pigs, bars and rods, and zinc plates, n.o.p.	156,900	26,722	195,400	30,921
Zinc in sheets and strips, and zinc plates for marine boilers	991,600	153,954	3,749,400	488,985
Zinc spelter	8,883,000	794,865	...	...
Zinc slugs for dry batteries	...	86	...	...
Zinc white (zinc oxide)	1,745,535	137,612	2,336,587	180,261
Zinc sulphate	986,136	41,278	825,141	49,854
Zinc, chloride of	192,935	11,928	270,925	16,532
Zinc, manufactures of, n.o.p.	...	351,218	...	466,842
Lithopone	18,999,905	932,787	20,334,132	1,017,275
TOTAL	...	2,454,539	27,757,385	2,254,540

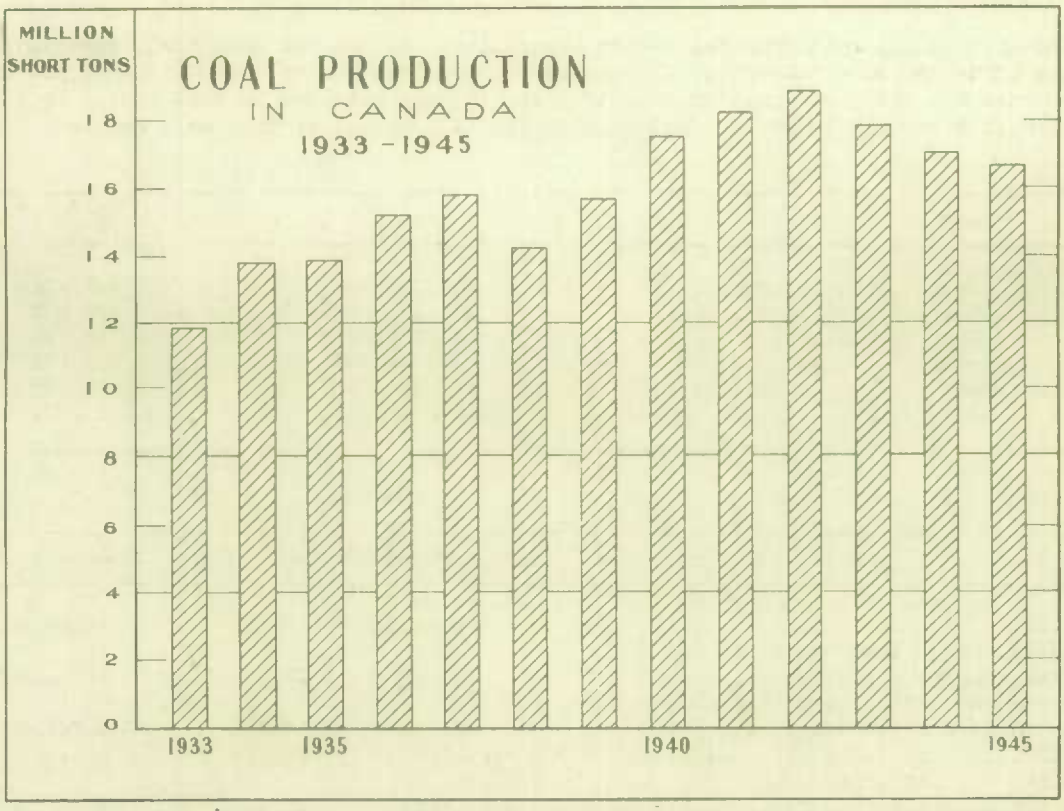
Exports

	1944		1945	
	Pounds	$	Pounds	$
Zinc, contained in ore	226,606,900	7,046,944	183,559,700	5,540,384
Zinc, scrap, dross and ashes	9,144,200	301,941	13,771,900	577,679
Zins spelter	191,970,000	7,666,731	243,920,400	14,122,706
TOTAL	427,721,100	15,015,516	441,252,000	20,240,769

C O A L

Production

Year	Short tons	$
1940	17,566,884	54,675,944
1941	18,225,921	58,059,630
1942	18,865,030	62,897,581
1943	17,959,057	62,377,549
1944	17,026,499	70,433,169
1945	16,692,465	68,854,253



The coal situation in Canada during 1945 was marked by a serious loss in production through the summer and fall months. This was due to the summer holidays which are now standard throughout the industry, the three weeks' strike in Western Canada, and the slow but continued loss of productive labour. As the year ended, however, it was noted that the labour position was changing and reports showed an appreciable gain in the standard mines.

Supplies of coal were considerably lower than at the end of 1944 and this was particularly true of the domestic coals. A publicity campaign in Western Canada developed in the spring and summer to induce the consumer to buy early met with a poor response and the western mines had difficulty in meeting the heavy seasonal demand.

COAL PRODUCTION, BY PROVINCES, 1944 and 1945

Province	1944		1945	
	Output	$	Output	$
Nova Scotia	5,745,671	30,728,535	5,252,667	29,612,484
New Brunswick	345,123	1,845,277	367,132	2,058,717
Saskatchewan	1,372,766	2,034,914	1,552,016	2,316,930
Alberta -				
Bituminous	4,763,303	17,720,079	4,612,525	17,156,715
Sub-bituminous	2,665,405	9,094,358	3,216,943	10,454,161
Total Alberta	7,428,708	26,814,937	7,829,468	27,610,876
British Columbia	2,134,231	9,009,506	1,711,182	7,255,226
CANADA	17,026,499	70,433,169	16,692,465	68,854,233

COAL PRODUCTION, BY MONTHS, 1944 and 1945, and NUMBER OF EMPLOYEES

Month	1944 Tons	1944 Number of employees	1945 Tons	1945 Number of employees
January	1,626,068	27,707	1,691,007	25,905
February	1,454,614	27,057	1,504,258	25,352
March	1,546,446	26,214	1,469,544	25,066
April	1,256,200	24,945	1,521,050	24,087
May	1,290,481	24,353	1,200,818	24,059
June	1,233,251	24,045	1,277,166	23,644
July	1,168,859	23,618	1,076,907	23,850
August	1,379,044	23,700	1,197,611	23,801
September	1,391,475	24,422	1,185,714	23,950
October	1,528,291	24,770	1,212,858	24,479
November	1,638,628	25,989	1,787,759	26,007
December	1,533,142	25,955	1,768,053	26,287
CANADA	17,026,499	...	16,692,465	...

Imports of Coal, by Kinds

	1944	1945
	(tons)	
Anthracite	4,413,227	3,411,424
Bituminous	24,513,527	21,176,811
Lignite	171	467
Briquettes	...	142,455
TOTAL CANADA	28,926,925	24,731,157

Exports of Coal

	1944	1945
	(tons)	
Bituminous	999,407	823,710
Lignite	10,833	16,998
TOTAL CANADA	1,010,240	840,708

NATURAL GAS

Production

Year	M cu. ft.	$
1940	41,232,125	13,000,593
1941	43,495,353	12,665,116
1942	45,697,359	13,301,655
1943	44,198,005	11,813,629
1944	45,067,158	11,422,541
1945	50,794,000	12,879,000

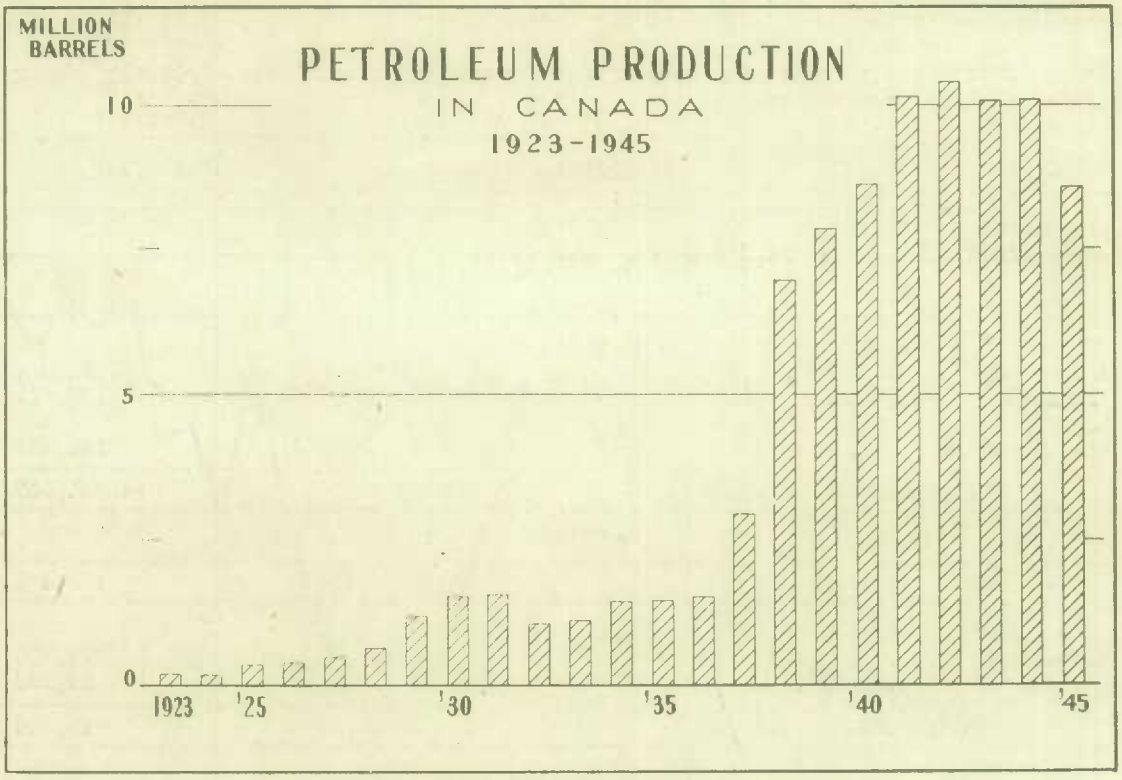
Natural gas has been found in most of the provinces of Canada. It is produced commercially in abundance in Alberta, to a lesser extent in Ontario, and in smaller quantities in New Brunswick and Saskatchewan. In Alberta, most of the production comes from the Turner Valley field, which supplies fuel for the field itself and then feeds the pipe line to the cities and districts of Calgary and Lethbridge. The Edmonton area is supplied from the gas field at Viking, about 80 miles southeast of the city, supplemented by that at Kinsella, farther east. Medicine Hat and the adjacent town of Redcliff, are supplied from the Medicine Hat field. The Vermilion field became an important producer of natural gas in 1942, the quantity produced being about the same as that of the Fabyan field which supplies Wainwright. The output from the Brooks and Foremost fields is obtained from several small producers.

It was recently reported that all gas produced in the Turner Valley field and not required was to be returned underground either to the Turner Valley gas-cap or to the Bow Island field.

In Saskatchewan, the eastern part of the Lloydminster field supplies the town of the same name. Natural gas is also produced in Saskatchewan in the Kamsack area.

In Ontario, natural gas is produced only in the southwestern part of the province and is piped to several cities and towns for industrial and domestic consumption.

In New Brunswick, the Stoney Creek field supplies Moncton and Hillsborough with natural gas.



CRUDE PETROLEUM

Production

Year	Barrels	$
1940	8,590,978	11,160,215
1941	10,133,838	14,415,096
1942	10,364,796	15,968,851
1943	10,052,302	16,470,417
1944	10,099,404	15,429,900
1945	8,550,000	13,759,000

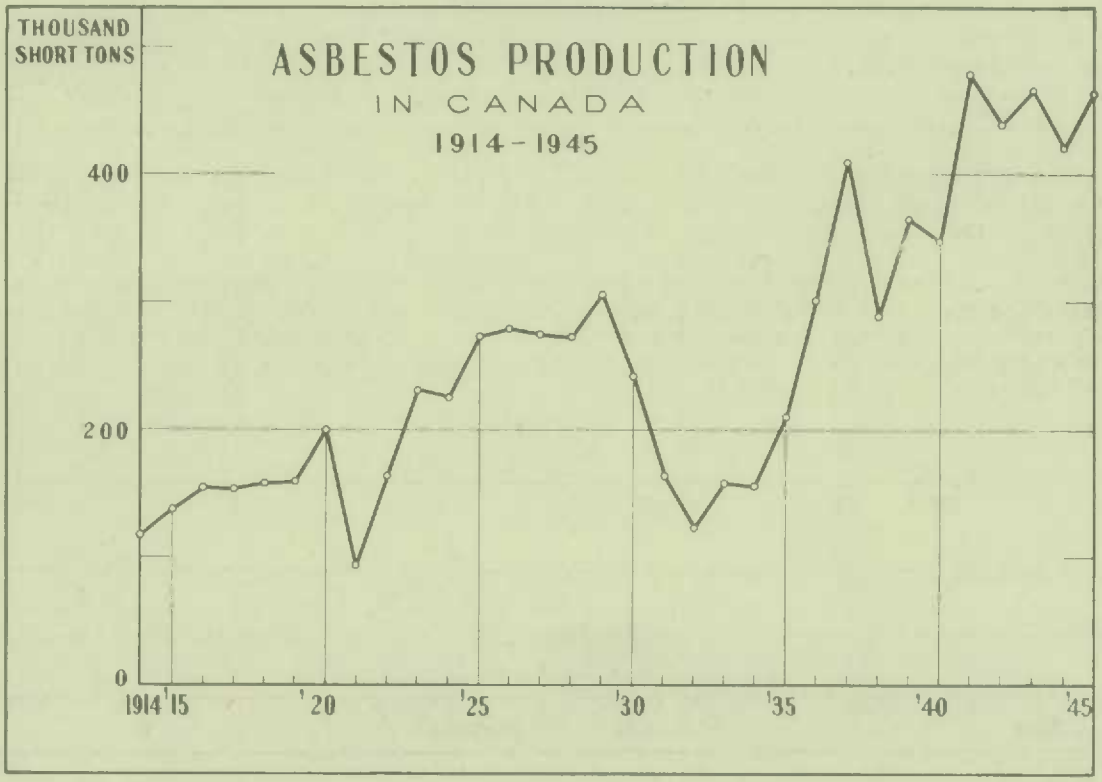
Production of Crude Petroleum, by Provinces, 1944 and 1945

Province	1944		1945	
	Barrels	$	Barrels	$
New Brunswick	23,296	32,832	31,000	44,000
Ontario	125,067	296,420	114,000	272,000
Saskatchewan	...	...	15,000	15,000
Alberta	8,727,366	14,468,061	8,039,000	13,169,000
Northwest Territories	1,223,675	632,587	351,000	259,000
TOTAL	10,099,404	15,429,900	8,550,000	13,759,000

Crude petroleum is produced in Canada from wells in Alberta, the Northwest Territories, Saskatchewan, Ontario and New Brunswick. The Turner Valley in Alberta is the largest single oil producing field in the Dominion with a normal output of approximately ninety per cent or more of Canada's entire petroleum production. In Ontario, crude oil continues to be produced at Petrolia, Oil Springs, and other places in the southwestern part of the province. The Stoney Creek field supplies the output from New Brunswick. Production of crude petroleum in the Northwest Territories showed a sharp decline following suspension of activities associated with the Canol project. On March 8, 1945 the United States Government ordered its agent, Imperial Oil Limited, to discontinue drilling and production on Canol account. The pumping of crude oil through the Canol pipeline from Norman Wells in the Northwest Territories to Whitehorse, Yukon, and the operation of the refinery at Whitehorse were discontinued about April 1, 1945. The Canol project agreement was officially terminated on May 3, 1945. A total of 64 wells was drilled in the vicinity of Norman Wells under the Canol project. Of these, 61 were commercial producers. Total oil production for the period in which the Canol project operated--May 1942 to March 8, 1945--was 1,858,447 barrels. The latest estimate of the recoverable reserve of the Norman oilfield, made in 1945, is 56,250,000 barrels.

It is interesting to note the production of crude petroleum commenced in the spring of 1945 in the Lloydminster field of Saskatchewan.

INDUSTRIAL MINERALS



ASBESTOS

Production

Year	Tons	$
1940	346,805	15,619,865
1941	477,846	21,468,840
1942	439,459	22,663,283
1943	476,196	23,169,505
1944	419,265	20,619,516
1945	460,051	21,405,391

Imports

		1944		1945	
		Quantity	$	Quantity	$
Asbestos packing	lb.	221,629	100,260	215,020	101,615
Asbestos brake linings for automobiles, etc.		...	523,171	...	379,038
Asbestos clutch facings for automobiles, etc.		...	350,779	...	316,461
Asbestos brake linings and clutch facings n.o.p.		...	39,919	...	32,005
Asbestos in any form other than crude, and all manufactures of, n.o.p.		...	963,387	...	1,385,224

Exports

		1944		1945	
		Quantity	$	Quantity	$
Asbestos, crude	ton	1,541	649,564	863	366,563
Asbestos milled fibres	ton	181,668	13,634,772	209,765	15,857,555
Asbestos waste, refuse or shorts	ton	212,728	5,361,358	229,829	5,618,124
Asbestos manufactures, including asbestos roofing		...	184,189	...	341,648

The asbestos produced in Canada is practically all of the chrysotile variety and comes almost entirely from the areas of serpentinized rock in the Eastern Townships, Quebec. The Canadian deposits are the largest in the world.

Most of the Canadian production of asbestos is exported in the unmanufactured state; i.e., either in the crude condition (long fibre material only), in a partly opened state, or completely fluffed out and ready for manufacture. The great bulk of exports goes to the United States, but substantial quantities are also exported to the United Kingdom and Australia. The Dominion Government controlled the export of asbestos after September 20, 1939.

BARITE

Production and Imports

Year	Production		Imports	
	Tons	$	Tons	$
1940	338	4,819	2,622	64,922
1941	6,890	74,416	3,431	81,620
1942	19,667	188,144	2,536	68,196
1943	24,474	279,253	1,686	43,239
1944	114,387	1,052,045	1,824	47,913
1945	140,198	1,224,473	1,149	32,531

For the past several years the production of barite in Canada has been confined to Nova Scotia and British Columbia, the main source of supply in Nova Scotia being the deposit of Canadian Industrial Minerals Limited, at Walton in Hants County. In British Columbia, the output comes from a property at Parson, 25 miles south of Golden. Barite is used chiefly in the manufacture of lithopone, various other paints, and in barium chemicals. Of increasing importance is its use as a heavy weighting medium in oil-well drilling muds. World production of barite prior to the war was close to one million tons a year, of which Germany supplied 50 per cent and the United States 30 per cent.

CORUNDUM

As a result of circumstances arising from the war, there was a revival of activity in the production of corundum in 1944 at Craigmont in Renfrew county, Ontario. Concentrate produced from the treatment of tailings was shipped during both 1944 and 1945 to an abrasive plant in the United States. Most of the world production of the mineral during the past 25 years has come from the Transvaal. Most of the Corundum used recently in the United States was for use in grinding and polishing high precision lenses for naval and military optical instruments.

FELDSPAR

Production

Year	Tons	$
1940	21,455	187,623
1941	26,040	244,284
1942	22,270	213,941
1943	23,858	237,771
1944	23,509	227,632
1945	28,047	264,820

Imports and Exports

	1944		1945	
	Tons	$	Tons	$
Imports -				
Feldspar, not further manufactured than ground	546	10,658	825	15,052
Exports -				
Feldspar	13,081	102,918	16,888	125,028

Canadian feldspar production comes from the provinces of Ontario and Quebec. A certain amount is exported in the crushed state and the remainder is ground into powder for export or for consumption in Canada in the ceramic and scouring compound trades. A grinding mill is operated at Buckingham, Quebec.

FLUORSPAR

Production and Imports

Year	Production		Imports	
	Tons	$	Tons	$
1940	4,454	59,317	30,316	328,719
1941	5,534	97,767	26,539	567,656
1942	6,199	146,039	47,784	1,046,526
1943	11,210	318,424	77,436	1,738,669
1944	6,924	217,701	37,101	840,309
1945	6,922	223,627	20,512	530,670

Production of fluorspar in Canada has been relatively small. The chief commercial deposits are in the vicinity of Madoc, Hastings county, Ontario, and the Rock Candy mine near Grand Forks, British Columbia, owned by the Consolidated Mining & Smelting Company of Canada, Ltd. During recent years production has also been reported from Nova Scotia, but the Madoc area of Ontario has contributed the major proportion.

The aluminum and steel industries are the larger consumers of fluorspar; during the war years the Dominion Government, through the office of the Metals Controller, furnished funds for expanding the output. Most of the fluorspar imported into Canada recently came from Newfoundland and was consigned to Arvida, Quebec, for use in the production of aluminum.

GRAPHITE

Production

Year	Tons	$
1940	...	94,038
1941	...	132,924
1942	...	117,904
1943	1,903	197,431
1944	1,582	171,166
1945	1,840	185,000

Imports and Exports

	1944 $	1945 $
Imports -		
Plumbago, not ground or otherwise manufactured	48,095	66,369
Crucibles, plumbago	128,738	115,256
Plumbago, ground, and manufactures of, n.o.p.	261,205	277,242
Exports -		
Graphite or plumbago, crude and refined	87,774	124,295

The Black Donald mine in Renfrew county, Ontario, is the only producer of graphite in Canada. This mine has been in operation for over 30 years. The size of the flake produced is too small for crucible use but is well adapted for foundry facings and lubricants. In 1942 a geological investigation of the deposit was undertaken by the Frobisher Exploration Company (Ventures Ltd.), and a substantial tonnage of new ore was proven.

Prior to the war, world production of natural graphite of all types, and including flake, crystalline (plumbago), and amorphous, averaged about 140,000 short tons a year. Madagascar, Germany, Austria and Czechoslovakia were the principal sources of flake; Ceylon of plumbago; and Mexico and Korea of amorphous.

GYPSUM

Production

Year	Tons	$
1940	1,448,788	2,065,933
1941	1,593,406	2,248,428
1942	566,166	1,254,182
1943	446,848	1,381,468
1944	596,164	1,511,978
1945	822,380	1,928,043

Imports and Exports

	1944		1945	
	Tons	$	Tons	$
Imports -				
Gypsum	560	17,223	888	22,183
Plaster of Paris or gypsum calcined and prepared wall plaster	1,550	65,180	2,884	89,144
Exports -				
Gypsum or plaster, crude	386,949	434,123	558,632	581,625
Plaster of Paris, ground, and prepared wall plaster	443	9,262	...	...

Nova Scotia is the largest gypsum producing province. Production from deposits in that province is generally exported in the crushed form. Gypsum products are produced at Windsor.

New Brunswick gypsum deposits are at Hillsborough. Part of the production is shipped in the crushed state, while large quantities are calcined to be used in the production of wallboard and various other gypsum products.

Ontario gypsum is mined at Caledonia by Gypsum, Lime & Alabastine, Canada, Ltd., and at Hagersville by the Canadian Gypsum Co. Ltd. Manufacturing plants are operated by these firms for the production of a wide range of gypsum products.

In Manitoba, Western Gypsum Products operate a mine at Amaranth, Manitoba, and manufacturing plant in Winnipeg. Gypsum, Lime & Alabastine, Canada, Ltd. operate a mine at Gypsumville and a manufacturing plant in Winnipeg.

In British Columbia, the Gypsum, Lime & Alabastine, Canada, Ltd. operate a mine at Falkland and a mill and manufacturing plant at New Westminster.

IRON OXIDES

Production and Imports

Year	Imports (Ochres, etc.)		Production	
	Pounds	$	Tons	$
1940	3,634,589	70,339	9,979	111,874
1941	3,104,741	71,216	10,045	142,069
1942	2,067,212	61,488	9,304	151,653
1943	2,250,850	76,644	8,401	135,393
1944	2,961,079	70,168	8,599	150,250
1945	3,800,511	97,164	11,498	132,822

Iron oxides are produced in Quebec and British Columbia. Ochreous iron oxide is sold uncalcined and is used chiefly in the purification of illuminating gas. Calcined iron oxides produced at Red Mill, Quebec, are used by the paint trade.

MAGNESITIC-DOLOMITE AND BRUCITE

Production

Year	$	
1940	897,016	
1941	831,041	
1942	1,059,374	Note: Includes brucite
1943	1,260,056	from 1942-1945
1944	1,139,231	inclusive.
1945	1,251,000	

Imports and Exports

	1944		1945	
	Tons	$	Tons	$
Imports -				
Magnesia pipe covering	...	71,138	...	155,504
Magnesite, dead burned, sintered, caustic, calcined or plastic magnesia	7,790	466,514	4,007	279,910
Brick, fire, magnesite	...	718,481	...	305,141
Exports -				
Refractories, dead burned, etc.	1,013	31,583	1,550	82,483

Magnesitic dolomite, an intimate mixture of magnesite and dolomite, is quarried and processed at Kilmar and Harrington East, in Argenteuil county, Quebec. It is marketed in the caustic and dead-burned states; in the form of bricks; as finely ground refractory cement; and also in combination with chrome as an ingredient in certain types of refractories. Caustic-calcined magnesia is used for fettling the bottoms of basic open hearth furnaces and for the construction of floors and floor tiles. The deposits of magnesitic dolomite in Argenteuil county, Quebec, are ample to supply magnesia products for domestic requirements for many years, and also to support a large export trade.

During 1941 a plant was erected by the Aluminum Company of Canada Ltd. near Wakefield, Quebec, for the production of brucite concentrates from crystalline limestone. Magnesia obtained from this source is suitable for high-grade basic refractories and has also been utilized in the production of magnesium metal.

M I C A

Production

Year	Pounds	$
1940	1,806,219	237,145
1941	3,487,891	335,288
1942	6,019,671	383,567
1943	8,050,692	553,856
1944	6,684,846	841,026
1945	7,369,964	216,096

Imports

	1944 $	1945 $
Mica and manufactures of, n.o.p. -- Total	185,986	236,597

Exports

	1944 Pounds	1944 $	1945 Pounds	1945 $
Mica, rough	955,600	133,149	801,400	107,740
Mica, trimmed, sheet or block	282,100	272,541	67,600	146,026
Mica, scrap and waste	4,879,200	36,072	4,853,600	33,200
Mica, ground	600,900	18,340	352,000	11,055
Mica, splittings	75,800	56,211	5,200	4,088
Mica, manufactures	...	994	...	2,614
TOTAL	...	517,307	...	304,723

Canada is one of the two leading sources of phlogopite or amber mica, the other most important producer being Madagascar. Most of the phlogopite mined in Canada has come from a belt of pyroxenite rocks that extends from Kingston to Ottawa, in Ontario, and thence northward into Quebec, between the Gatineau and Lièvre Rivers. Numerous occurrences of muscovite, or white mica, are also known in Canada, but only since the discovery in 1942 of exceptionally rich deposits in the Eau Claire area, Ontario, has there been a substantial production of this variety. Production from the Eau Claire deposits decreased considerably in 1945.

India has long been the chief world source of muscovite, and production there since 1942 has exceeded all previous records.

MINERAL WATERS

Production

Year	Imperial gallons	$
1940	140,663	20,892
1941	181,064	72,551
1942	157,085	74,505
1943	159,611	67,541
1944	156,150	79,031
1945	155,000	78,000

Production originates in the provinces of Quebec and Ontario. Some of the more prominent Canadian mineral waters possessing special therapeutic or hygienic properties include the following: in Quebec, the Abenakis springs on the St. François River, in Yamaska county; Potton springs in Brome county, and the Coulombia spring at L'Epiphanie. In Ontario, saline, sulphur and gas springs occur at Caledonia Springs and Carlsbad Springs, near Ottawa. St. Catharines, near Niagara, is one of the oldest Canadian mineral water resorts, and sulphur waters are found at the Preston mineral springs in Waterloo county. There are also the hot sulphur springs at Banff, Alberta, the Harrison Hot Springs and the Halcyon Hot Springs in British Columbia.

NEPHELINE SYENITE

Production

Year	Tons	$
1940	20,510	117,849
1941	39,707	227,583
1942	42,206	246,893
1943	49,901	292,010
1944	47,625	217,989
1945	60,133	236,902

Nepheline syenite is a quartz-free crystalline rock consisting essentially of the feldspathoid mineral nephelite with albite and microcline feldspars. Canada and Russia are the only countries that are known to produce nepheline syenite on a commercial scale. The developed occurrences of nepheline syenite in Canada are confined to Ontario where deposits have been worked in Peterborough, Hastings and Haliburton counties. The large operation of American Nepheline Corporation, near Lakefield, in Peterborough county, has accounted for all production since 1942. Nepheline syenite is essentially a substitute for feldspar and continues to be used chiefly in the glass trade, where it is preferred to straight feldspar because of its higher content of alumina.

PEAT MOSS

Production

Year	Tons	$
1940	...	...
1941	27,803	644,253
1942	53,506	1,069,372
1943	64,360	1,461,422
1944 (x)	80,446	1,869,553
1945	83,849	2,148,140

(x) Data for 1944 are not exactly comparable with previous years as in 1944 statistics include the resale of considerable moss purchased by certain producers in British Columbia.

Peat moss is produced in several provinces in Canada, and though perhaps not properly a mineral, it has been included with the mineral industry of Canada in order that the production will be regularly recorded. The industry has had a very rapid growth during the past few years, as will be noted from the production statistics given. It has high absorptive qualities and for that reason it is widely used as litter. It makes an excellent packing material.

Peat moss was used in the United States during the war in the production of magnesium metal. It is also employed in the manufacture of certain fertilizers and insulating materials.

PHOSPHATE

Production and Imports

Year	Production		Imports (Rock)	
	Tons	$	Tons	$
1940	358	4,039	165,858	663,554
1941	2,487	33,376	237,029	863,833
1942	1,264	17,431	271,373	1,053,229
1943	1,451	18,385	260,846	1,085,080
1944	482	6,716	388,247	1,710,378
1945	294	4,513	317,695	1,450,580

All of the small output of phosphate in Canada consists of apatite, a common associate of the phlogopite mica mined in the precambrian crystalline pyroxenites of southwestern Quebec and eastern Ontario. In Quebec most of the apatite has come from mines in territory contiguous to the Lievre River in Papineau county. In Ontario, the apatite-bearing belt extends in a southwesterly direction through the Rideau Lakes section. The sedimentary phosphate rock which occurs along the Rocky Mountain divide in British Columbia is rather low grade and is not considered to be of present economic interest.

PYRITES (Sulphur)

Production

Year	Tons	$
1940	170,630	1,298,018
1941	260,023	1,702,786
1942	303,714	1,994,891
1943	257,515	1,753,425
1944	248,088	1,755,739
1945	245,859	1,860,860

Imports and Exports

Year	Imports (Sulphur)		Exports (Sulphur in Pyrites)	
	Tons	$	Tons	$
1940	215,597	3,628,348	40,380	230,981
1941	235,271	3,920,184	129,629	585,258
1942	290,121	4,680,672	166,451	700,918
1943	218,527	3,524,006	104,509	409,597
1944	235,955	3,875,649	90,836	353,441
1945	248,846	4,063,324	75,479	315,232

Canadian sulphur production is computed as the sulphur in iron pyrites shipped plus the sulphur recovered from non-ferrous smelter gases. Pyrites is produced in Canada as a by-product in the treatment of copper-pyrites at the Waite-Amulet and Noranda mines in Quebec, and at the Britannia mine in British Columbia. No lump pyrites has been produced in Canada for several years. Sulphur is recovered from the waste smelter gases at Trail, British Columbia, in the form of sulphuric acid. At Copper Cliff, Ontario, the Canadian Industries Limited manufactures sulphuric acid from the waste gases of the International Nickel Company's nickel-copper smelter.

QUARTZ (x)

Production

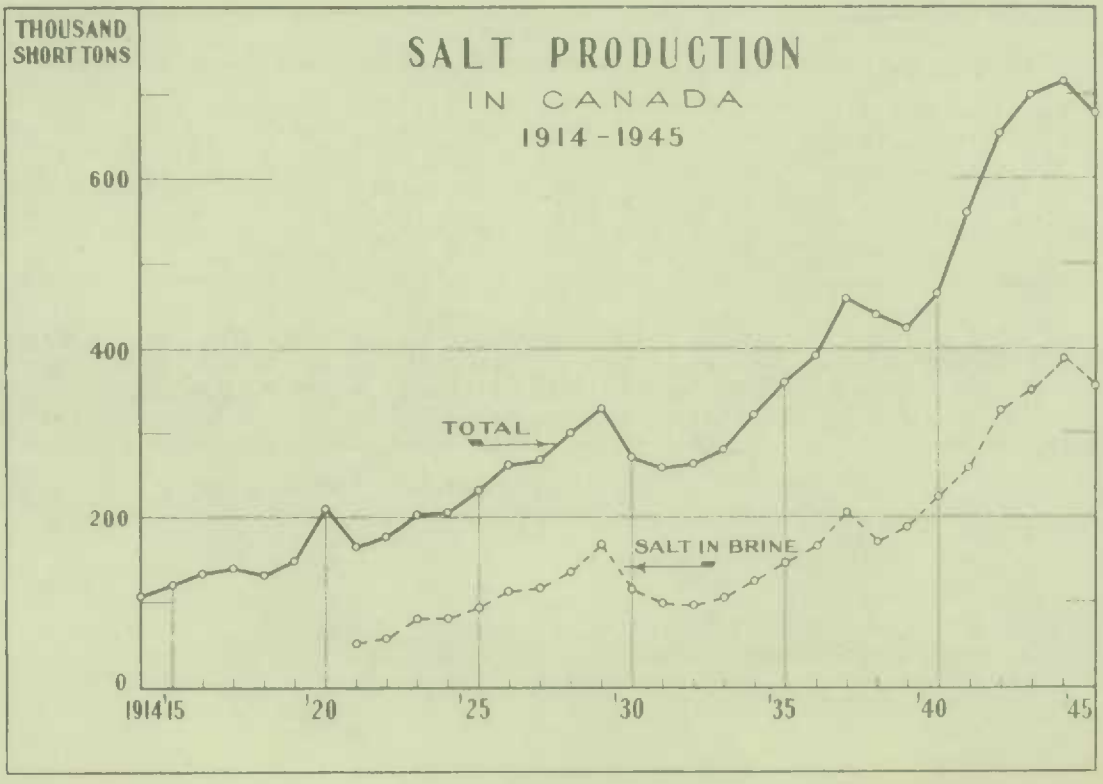
Year	Tons	$
1940	1,858,302	1,203,527
1941	2,052,878	1,366,187
1942	1,738,174	1,538,162
1943	1,776,749	1,608,448
1944	1,740,262	1,658,409
1945	1,458,847	1,492,765

Imports and Exports

	1944		1945	
	Tons	$	Tons	$
Imports -				
Cunister	347	2,463	426	3,384
Silex or crystallized quartz, ground or unground	8,774	530,200	7,250	247,393
Flint and ground flint stones	1,480	30,487	711	20,550
Silica sand	457,603	914,390	410,427	926,648
TOTAL	...	1,477,540	...	1,197,975
Exports -				
Quartzite	126,608	260,181	121,455	282,578

Production of quartz in various forms was reported in Nova Scotia, Quebec, Ontario, Saskatchewan and British Columbia. Quartz is used for various purposes, such as a flux in metallurgical operations, for the manufacture of glass and chemicals, silicon carbide, ferro-silicon, and for sand blasting. The price varies depending on its purity and the purpose for which it is to be used. It is, generally speaking, a low-priced commodity, and therefore the location of the deposit with respect to markets is of great importance.

(x) Includes vein quartz, quartzite, etc.



S A L T

Production

Year	Commercial Salt		Salt in Brine (x)		T O T A L	
	Tons	$	Tons	$	Tons	$
1940	240,705	2,464,297	224,009	358,972	464,714	2,823,269
1941	302,134	2,765,512	258,711	430,653	560,845	3,196,165
1942	326,124	3,263,406	327,548	580,781	653,672	3,844,187
1943	341,541	3,495,036	346,145	984,342	687,686	4,479,378
1944	325,018	3,498,526	370,199	575,495	695,217	4,074,021
1945	321,392	3,470,273	356,612	554,810	678,004	4,025,083

(x) Dry salt and salt in brine used by producers for manufacture of chemicals.

Imports and Exports

	1 9 4 4		1 9 4 5	
	Tons	$	Tons	$
Imports -				
Salt, for use of the sea or gulf fisheries ...	31,458	173,123	28,703	174,211
Salt, in bulk, n.o.p.	91,358	461,953	88,822	443,192
Salt, n.o.p., in bags, barrels, etc.	24,466	211,981	19,641	187,599
TOTAL	147,282	846,057	137,166	805,002
Exports -- Total	3,182	80,672	5,314	105,494

Common salt (sodium chloride) is obtained in solution in a brine from which the salt is extracted by evaporation and in lump or solid form by direct mining. Salt is produced in southern Ontario, at Malagash, Nova Scotia, at Neepawa, Manitoba, and at Waterways, Alberta. In Ontario, Manitoba and Alberta the salt is obtained from brine wells. The Malagash salt is recovered by mining rock salt and by evaporation from brine by leaching the waste material in the mine.

SODIUM CARBONATE

Production and Imports

Year	Production		Imports (Soda ash)	
	Tons	$	Tons	$
1940	220	1,760	4,647	110,285
1941	186	1,488	38,944	816,067
1942	256	2,048	65,589	1,540,247
1943	468	5,148	70,557	1,213,818
1944	44	484	20,141	583,653
1945	239	2,629	2,229	91,655

Production in Canada of natural sodium carbonate comes entirely from deposits located on or near the line of the Pacific and Great Eastern Railway in British Columbia. As the present known Canadian deposits are far from the main markets, the output is restricted to the requirements of consumers within economic rail haul from the deposits. Eastern consumers of soda ash obtain their supplies from the chemically-prepared material made from salt by the Solvay or ammonia process in Ontario and the United States.

SODIUM SULPHATE

Production and Imports

Year	Production		Imports			
			Salt Cake		Glauber's Salt	
	Tons	$	Tons	$	Tons	$
1940	94,260	829,589	8,295	94,674	543	12,450
1941	115,608	931,554	7,819	105,502	250	8,244
1942	131,258	1,079,692	7,071	85,479	75	4,664
1943	107,121	1,025,151	11,904	150,496	566	16,599
1944	102,421	987,842	20,459	195,105	777	21,960
1945	86,643	850,455	13,535	120,982	1,016	29,452

Sodium sulphate occurs as crystals or in the form of highly concentrated brines in many lakes throughout Western Canada. Hydrated sodium sulphate known as Glauber's Salt, and anhydrous sodium-sulphate, known to the trade as "Salt cake", are produced in Canada. Production has been mainly from Saskatchewan. A small tonnage of crude has been harvested intermittently in Alberta. Undeveloped deep-seated beds of sodium sulphate occur in southern New Brunswick. Sodium sulphate is used extensively in the pulp and paper, glass, dye and textile industries. It is also used in relatively large quantities in the copper-nickel smelting industry for the separation of the two metals.

TALC AND SOAPSTONE

Production

Year	Talc		Soapstone (x)	
	Tons	$	Tons	$
1940	15,168	154,734	...	74,905
1941	18,171	204,884	16,461	155,925
1942	15,499	174,295	14,369	136,529
1943	11,959	131,216	14,204	135,469
1944	13,584	153,122	19,013	204,127
1945	13,000	140,000	13,889	145,847

(x) Includes some low grade talc.

Imports and Exports

Year	Imports of Talc and Soapstone		Exports of Talc	
	Tons	$	Tons	$
1940	2,719	66,238	10,232	142,577
1941	4,804	93,455	19,411	263,568
1942	5,441	114,852	16,055	214,033
1943	6,450	130,813	11,365	146,516
1944	6,094	130,603	11,920	157,178
1945	6,388	131,363	7,363	100,114

Canadian production of prime white powdered talc comes chiefly from important deposits of foliated white talc located near Madoc, Ontario. Preparation of the mineral for the market includes crushing, drying, grinding and bolting.

In Quebec the entire production of talc and soapstone is obtained from the Eastern Townships, mainly from the Thetford Mines area, and there is also a mine and mill at Highwater, close to the Vermont boundary. All of Canada's sawn soapstone blocks come from the Thetford Mines area. Soapstone is used extensively in the form of sawn blocks and bricks for lining the alkali recovery furnaces and kilns of kraft pulp and paper mills. Considerable quantities of soapstone quarry and sawing waste are ground and marketed as low-grade talc to rubber, roofing, foundry and other trades; crayons are also made from massive talc.

CLAY PRODUCTS AND OTHER STRUCTURAL MATERIALS

CLAY PRODUCTS

Production

Year	$
1940	6,344,547
1941	7,575,336
1942	7,081,723
1943	6,608,193
1944	6,997,425
1945	8,385,185

Production (Sales) of Domestic Clay and Clay Products in Canada, 1943 and 1944

	Unit of measure	Sales or Shipments 1943 Quantity	1943 $	1944 Quantity	1944 $
Clay--Fireclay	ton	5,653	42,122	7,630	58,433
Kaolin	ton	93	1,531	424	5,758
Other clay	...	...	218,083	...	256,450
Fireclay blocks and shapes	...	...	256,655	...	221,251
Firebrick	M	5,644	192,618	5,180	164,837
Brick: Soft mud process--Face	M	9,260	206,826	7,917	177,659
Common	M	14,195	209,508	14,182	214,338
Stiff mud process--Face	M	34,623	867,630	55,175	1,360,085
(wire cut) --Common	M	51,000	829,565	44,451	742,457
Brick--Dry process: Face	M	10,504	256,362	15,990	337,715
Common	M	15,681	243,446	18,809	317,895
Fancy or ornamental brick (including special shapes, embossed and enamelled brick)	M	3,190	191,424	28	866
Sewer brick	M	225	4,203	233	4,391
Paving brick	M	151	8,967	321	18,795
Structural tile - Hollow blocks (including fireproofing and load-bearing tile)	ton	84,469	819,535	87,820	811,558
Roofing tile	...	...	827	...	...
Floor tile (quarries)	...	...	26,949	...	43,817
Drain tile	M	13,001	390,377	13,684	425,725
Sewer pipe (including copings, flue linings, conduits, etc.)	...	...	1,116,846	...	964,732
Pottery, glazed or unglazed (including coarse earthenware, sanitary ware, stoneware, flower pots, and all other pottery)	...	...	701,144	...	858,544
Other products	...	...	23,775	...	52,147
TOTAL	...	...	6,608,193	...	6,997,425

CEMENT

Production (Producers' Sales)

Year	Barrels	$
1940	7,559,648	11,775,345
1941	8,368,711	13,063,588
1942	9,126,041	14,365,237
1943	7,302,289	11,599,033
1944	7,190,851	11,621,372
1945	8,378,341	13,908,014

Imports and Exports

	1944 Barrels	1944 $	1945 Barrels	1945 $
Imports -				
Portland	14,000	76,838	32,653	141,539
Manufactures	...	21,128	...	31,306
Exports - Total	210,448	377,434	281,944	535,012

Cement is produced in Canada by the Canada Cement Co. Ltd. with plants at Montreal East and at Hull, Quebec; Port Colborne and Point Anne, near Belleville, Ontario; Fort Whyte, Manitoba; and Exshaw, Alberta. Other companies producing cement were the St. Mary's Cement Company, St. Mary's, Ontario, and the British Columbia Cement Company, Bamberton, British Columbia.

L I M E

Production

Year	Quicklime Tons	Quicklime $	Hydrated Lime Tons	Hydrated Lime $	TOTAL Tons	TOTAL $
1940	623,803	4,421,758	92,927	772,797	716,730	5,194,555
1941	723,864	5,287,711	137,021	1,070,230	860,885	6,357,941
1942	749,282	5,646,049	135,548	884,790	884,830	6,530,839
1943	766,147	5,990,088	141,621	842,904	907,768	6,832,992
1944	738,202	5,948,079	146,940	978,765	885,142	6,926,844
1945	...	...	...	...	831,982	6,421,547

Imports and Exports

	1944 Tons	1944 $	1945 Tons	1945 $
Imports -				
Lime	6,697	34,917	6,354	35,766
Exports -				
Building lime	24	675	159	2,094
Lime, n.o.p.	15,427	136,122	20,842	235,362

Lime is marketed in the form of quicklime and in the hydrated state, the latter being a specially prepared slaked lime in the form of a fine powder that is usually marketed in 50-pound multi-wall paper bags.

Quicklime is marketed in the lump, pebble, crushed and pulverized forms; lump lime and pebble lime are sold either in bulk or packed in barrels; crushed lime (1 inch and under) and pulverized lime (ground to minus 20 mesh, and in some plants to minus 50 mesh) are sold in airtight multi-wall paper bags.

As the preliminary figures of production for 1945 are not available by uses, it is thought that the following tables for 1943 and 1944 may be of interest.

Production of Lime in Canada, 1943 and 1944, Showing Purposes for Which Sold or Used

	1943 Quicklime Tons	1943 Hydrated Lime Tons	1944 Quicklime Tons	1944 Hydrated Lime Tons
Building trades -				
Finishing lime	4,021	20,714	3,439	27,847
Masons' lime	14,741	12,214	17,099	12,840
Sand-lime brick	5,275	27	5,211	...
Agriculture	328	11,504	370	13,821

Production of Lime in Canada, 1943 and 1944, Showing Purposes for Which Sold or Used (Concluded)

	1943		1944	
	Quicklime	Hydrated Lime	Quicklime	Hydrated Lime
	Tons	Tons	Tons	Tons
Chemical -				
Smelters (non-ferrous)	36,500	79,881	19,624	66,555
Iron and steel furnaces	46,205	98	38,676	74
Cyanide and flotation mills.	24,239	1,745	14,825	2,707
Pulp and paper mills	147,796	7,643	159,547	11,038
Glass works	14,206	...	14,732	...
Sugar refineries	16,856	125	12,674	3,168
Tanneries	5,095	800	4,527	922
Fertilizer plants	762	705	319	680
Insecticide plants	1,663	185	1,880	292
Other chemical works	437,177	3,042	433,904	4,140
Uses unspecified	11,283	2,938	11,375	2,856
TOTAL	766,147	141,621	738,202	146,940

SAND AND GRAVEL

Production

Year	Tons	$
1940	31,375,415	11,759,245
1941	31,604,806	10,375,723
1942	26,349,907	9,005,414
1943	25,744,469	9,005,857
1944	28,399,986	10,280,119
1945	29,021,249	10,513,992

S T O N E

Production

Year	Tons	$
1940	7,447,665	7,398,959
1941	7,940,801	8,000,684
1942	7,978,066	8,746,594
1943	7,222,950	7,964,179
1944	5,994,992	7,159,177
1945	5,884,718	7,577,804

Imports and Exports

		1944		1945	
		Tons	$	Tons	$
Imports -					
Building stone		1,849	15,120	5,308	48,997
Granite, rough		...	53,707	...	42,942
Granite, sawn		...	15,783	...	22,964
Granite, manufactures		...	9,430	...	9,877
Marble, rough		...	8,844	...	9,139
Marble, sawn, etc.		...	22,653	...	41,229
Marble sawn for tombstones		...	38,036	...	62,045
Marble manufactures, n.o.p.		...	7,869	...	10,252
Roofing slate	squares	720	7,386	439	5,276
Slate manufactures, n.o.p.		...	28,075	...	26,151
Refuse stone		734,141	398,378	705,716	481,348
Stone manufactures, n.o.p.		...	25,067	...	27,010
Exports -					
Granite and marble, unwrought		3,871	42,567	3,835	48,606
Stone of all kinds, dressed		...	5,713	...	7,351

The kinds of stone quarried in Canada include granite (trap rock, syenite and other igneous rock), limestone, marble, sandstone, and slate. Stone of almost every known variety occurs in Canada; rocks of the igneous areas of British Columbia, Manitoba, Ontario, Quebec and the Maritime Provinces exhibit a wide range of physical characteristics, some varieties being especially noted for their richness of colour and beauty of crystallization. The sedimentary rocks, including limestones, sandstones and marbles are quarried at various points in Canada. The products from quarries operating in these different formations not only yield high class structural and decorative materials, but provide the chemical and other allied industries with many of their increasing requirements.

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