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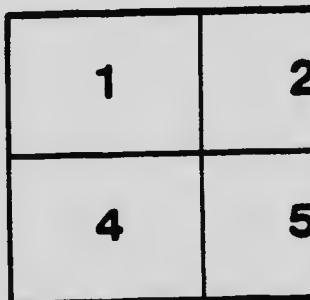
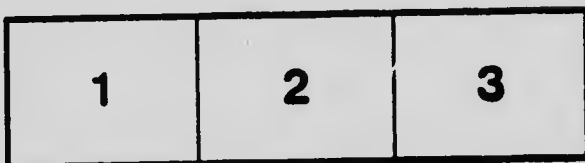
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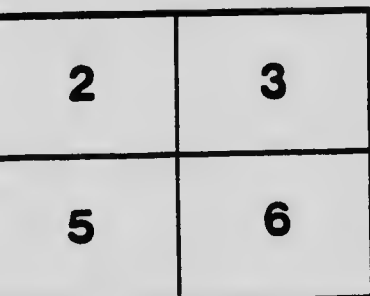
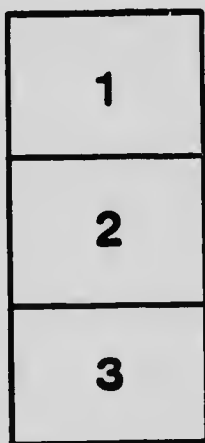
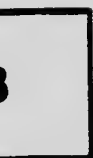
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THE
PRODUCTION OF CHROMITE
IN
CANADA

During the Calendar Years

1907-8

BY

JOHN McLEISH, B.A.

Chief of the Division of Mineral Resources and Statistics



OTTAWA
GOVERNMENT PRINTING BUREAU
1909

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No. 43.

HOWARD CAMP
VIA RAIL

ADVANCE CHAPTER OF THE ANNUAL REPORT ON THE MINERAL PRODUCTION
OF CANADA DURING THE CALENDAR YEARS 1907 AND 1908.

CHROMITE

With regard to the output of chromite in Canada during the past four years, the production has shown comparatively little variation.

The shipments in 1907 were 7,196 tons valued at \$72,901, made up of 3,645 tons classed as high grade valued at \$41,931 (chiefly concentrates), and 3,651 tons of low grade, valued at \$30,970.

In 1908 the total shipments were returned as 7,225 tons valued at \$82,008, made up of 3,472 tons of concentrates valued at \$45,300, and 3,753 tons of crude ore, valued at \$36,708.

In neither of these years was the output as large as in 1906, when the shipments were given as 9,035 tons valued at \$91,859.

Prices realized in 1908 were perhaps slightly better than in 1907.

Statistics of production since 1886 are shown in Table 1 following, the total during the last five years being divided into high and low grade. Material classed as high grade includes both ore and concentrates ranging from 48 per cent to 50 per cent Cr₂O₃ and higher, while the low grade is composed chiefly of crude ore.

CHROMITE.—TABLE 1.

Annual Production in Canada, 1886-1908.

Calendar Year.	HIGH GRADE			LOW GRADE			TOTALS		
	Short Tons.	Value.	Average Prices.	Short Tons.	Value.	Average Prices.	Short Tons.	Value.	Average Prices.
1886		\$	\$ c.		\$	\$ c.		\$	\$ c.
1887							60	945	15.75
1888 to							38	570	15.00
1888								No Output	
1894									
1895							1,000	20,000	20.00
1896							3,177	41,300	13.00
1897							2,342	27,004	11.53
1898							2,637	32,474	12.31
1899							2,021	24,262	12.00
1900							2,010	21,842	10.86
1901							2,335	37,000	11.56
1902							1,374	16,744	13.14
1903	2,842	44,280	15.58	667	6,849		900	13,000	14.44
1904	4,650	53,976	16.06	1,424	12,170	10.27	3,509	51,139	14.57
1905				3,575	33,301	10.88	6,074	67,146	11.05
1906	4,975	57,484	11.55	4,060	34,376	8.47	8,575	93,301	10.88
1907	3,545	41,931	11.83	3,651	30,970	8.48	9,033	91,859	10.17
1908	3,472	45,300	13.05	3,753	36,708	9.78	7,225	82,008	11.35

The chromite finds its chief market in the United States, although a few car-loads are shipped annually to Canadian points.

The exports of chromite from Canada, as compiled from the monthly reports of Trade and Navigation, are given in Table 2. It must be pointed out, however, that these figures show some peculiar discrepancies. In the first place the exports to Great Britain are evidently not chromite, but may be ferro-chrome, while in the second place the quantities given as exported to the United States are much less than is stated by the shippers to have found a market in that country.

CHROMITE.—TABLE 2.
Exports during the calendar years 1895-1906.

Calendar Year.	To GREAT BRITAIN.		To UNITED STATES.		To OTHER COUNTRIES.		TOTAL EXPORTS.	
	Tons.	Value.	Tons.	Value.	Tons.	Value.	Tons.	Value.
		\$		\$		\$		\$
1895.....							2,908	42,236
1896.....							2,466	31,411
1897.....							2,106	26,264
1898.....							1,663	20,763
1899.....							1,500	19,876
1900.....							368	8,250
1901.....							2,250	25,444
1902.....							740	7,535
1903.....	62	4,650	914	15,319	37	655	1,013	20,524
1904.....	192	11,305	2,859	45,649	267	3,292	3,336	60,336
1905.....	153	11,080	1,956	23,322			2,119	34,392
1906.....			891	10,188			891	10,188
1907.....	106	10,400	784	9,400			892	19,800
1908.....			4,571	56,804			4,571	56,804

It will be observed that the exports to Great Britain average in value from \$60 to \$66 per ton, while those to the United States range between \$11 and \$16 per ton, and it may be inferred that the exports to Great Britain possibly represent ferro-chrome which may have been entered with the chromite by the Customs officers in the absence of a more definite classification.

In the following table a comparison is given of the trade returns in chromite between Canada and the United States, as published by the Canadian Customs Department and the United States Department of Commerce respectively, in order to further illustrate the discrepancies referred to in Table 2.

TWELVE MONTHS ENDING JUNE 30.	IMPORTS OF CHROMITE INTO THE UNITED STATES FROM CANADA ¹ .		EXPORTS OF CHROMITE FROM CAN- ADA TO THE UNITED STATES ² .	
	Short Tons.	Value.	Short Tons.	Value.
1904.....	2,790	\$36,322	2,032	\$40,298
1905.....	5,489	70,934	2,635	31,007
1906.....	9,961	107,590	1,803	21,293
1907.....	6,179	66,115	612	7,606
1908.....	6,505	69,009	2,654	32,940

¹ Monthly Reports, Trade and Navigation, Ottawa.

² The Foreign Commerce and Navigation of the United States, Washington, long ton in original changed to short ton.

We are forced to the conclusion that a larger quantity of chromite, particularly during the years 1904 to 1908, has been exported to the United States than is shown by the Canadian trade returns.

The chromite is mined in the Eastern townships, Province of Quebec, chiefly in the township of Coloraine at Little Lake St. Francis and Black Lake, the operating companies being the Dominion Chrome Company and the Black Lake Chrome and Asbestos Company, both operating under one management. A couple of car loads were also shipped by the D'Israeli Chrome Mines, Ltd., from the property of Mr. J. O. Brousseau, in Garthby township.

Other mines in the district, owned by the American Chrome Company and the Canadian Chrome Company, were idle during the year.

Chrome iron ore is chiefly used for the manufacture of ferro-chrome alloys, and chromium salts for pigments, and is also used for linings in steel and copper furnaces. Ferro-chrome is manufactured at Buckingham, Que., by the Electric Reduction Company, from Eastern Township ores, and shipments of these ores have also been made to the steel furnaces at Sydney and Sault Ste. Marie.

Prices in New York in 1907 and 1908 were practically uniform, ranging from \$17 to \$20 per long ton for 50 per cent ore.

As an illustration of the possible market in the United States for Canadian chrome iron ore, the following table shows the imports into that country during the year ending June 30, 1908.

CHROME IRON ORE.—TABLE 3.

Imports into the United States, year ending June 30, 1908,
in tons of 2,240 lbs.*

Imports from	Long Tons.	Value.	Average Value per Ton.
Belgium	197	\$ 2,492	\$12.65
France.....	468	7,776	16.39
Germany.....		20	
Greece.....	9,921	138,996	13.81
United Kingdom.....	4,336	57,719	13.31
Canada	5,808	69,009	11.88
.....	35	357	10.20
..... in Asia.....	439	5,312	12.10
..... in Oceania.....	20,458	221,460	10.82
..... in Portuguese Africa.....	2,200	32,600	14.82
Totals.....	43,861	\$653,600	\$12.17

* The Foreign Commerce and Navigation of the United States, 1908.

THE WORLD'S PRODUCTION.

The world's production of chromite in 1907 was probably between 90,000 and 100,000 metric tons as a minimum. Turkey has been a large producer of this mineral, but on very incomplete records of exports are available. The following table contains a summary of available records of chromite supplies from 1903 to 1908.

CHROMITE—TABLE 4.

World's Production of Chromite in metric tons (2,204.6 lbs.).

Locality.	1903	1904	1905	1906	1907	1908
Australia (a)	1,200	400	20	10	20	.....
Bosnia and Herzegovina (a).....	147	378	190	310	200	.....
Canada (b).....	2,120	2,210	7,770	2,190	6,200	2,504
Greece (a).....	4,470	6,000	2,000	11,200	11,700	.....
India (a).....	.....	.....	2,701	4,440	7,301	.....
New Caledonia (Production.....	.....	(a) 47,247	(a) 75,000	(b) 84,241	(b) 2,000	.....
" (Exports).....	(b) 21,407	(a) 40,487	(b) 21,374	(a) 57,307	(a) 21,500	(c) 40,300
Rhodesia (a).....	.....	.....	Nil.	2,200	7,370	(c) 12,118
Russia (a).....	10,401	20,075	27,047	10,070	.....	.....
Norway (a).....	Nil.	154	Nil.	Nil.	.....	.....
United States (f).....	100	120	20	100	200	(c) 204
Turkey (g).....	No complete statistics available.					

* Statistics not yet available.

- (a) Home Office, London.
- (b) L'Industrie Minière, Paris.
- (c) Mineral Industry, New York, 1908.
- (d) Department of Mines, Ottawa.
- (e) Rhodesia "Chamber of Mines".
- (f) Geological Survey, United States.

(g) Turkey is one of the most important producers of chromite, the ore being found in many parts of both European and Asiatic Turkey. Unfortunately no complete records of production are available. According to statistics collected and published by the Home Office, the exports from several ports during the years 1903 to 1907 were as follows, in metric tons:—

	1903	1904	1905	1906	1907
Salonica.....	2,000	2,000	5,700	5,000	4,000
Konovo.....	.....	2,100	2,000	4,100	2,000
Dardanelle and Marmora ports....	12,000	12,000	12,000	12,000	12,000
	to	to	to	.....	to
	15,000	15,000	15,000	.....	14,000
Smyna	2,000	200	.....	1,000	.....
Adana.....	.....	To value	.....	.....	.....
	.....	of 2000	£2,000	.....	21,000
Adalia .....	.....	.....	.....	.....	700

Imports of chrome iron ore into the United States from Turkey, during the fiscal years from 1903 to 1907 inclusive, aggregated 28,483 long tons, while the imports into Great Britain from Turkey during the six years from 1903 to 1907 inclusive, were 91,800 long tons.

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