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Mining, Metallurgical and Chemical Statistics  
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THE IRON OXIDES (OCHRE) INDUSTRY, 1947

Canadian producers of ochreous iron oxides in 1947 shipped 13,418 tons of this material which was valued at \$258,322, f.o.b. shipping points. Practically all of this output was from mines in Quebec, but a few tons were shipped from deposits in British Columbia. In 1946 the sales amounted to 12,695 tons worth \$152,268. The 1947 tonnage included a greater proportion of refined grade than in the previous year.

The 6 firms which operated in 1946 employed 54 persons, to whom \$82,369 were paid in salaries and wages. Fuel and electricity cost \$24,802 and the cost of process supplies was \$6,628. Operations in the industry are seasonal, starting the latter part of April and closing in December.

The following information relating to ochreous oxides in Canada is taken from a report prepared by the Bureau of Mines, Ottawa:

Sherwin-Williams Company of Canada, Limited, is the only Canadian producer of calcined iron oxides. It operated its deposits and plant at Red Mill, Champlain county, Quebec, a few miles east of Trois Rivières, throughout 1947. Crude ochre was mined from deposits at Pointe-du-Lac, St. Maurice county; at Alma-ville, Champlain county; and at Grande Mere, Lavolette county.

In British Columbia, there is a small production of iron oxide from the Morning Star mine of B. C. Electric Company at Alta Lake, New Westminster district. The oxide is used chiefly for the purification of illuminating gas. Elsewhere in Canada, the several known deposits of ochre have received little active attention. The principal deposit in Saskatchewan of possible economic interest is at Loon Lake, 32 miles from St. Walburg on the Canadian National Railway, and 77 miles northwest of North Battleford. In northern Manitoba, large deposits near Grand Rapids and Cedar Lake are known, but have not been developed for lack of markets.

The ochreous iron oxide used in the manufacture of paints is largely in the calcined form. However, a small quantity of natural iron oxides associated with clay-like materials in the form of umbers and siennas is also used as pigments in paints, both in the raw and calcinated state.

Iron oxide pigments are used also as colouring agents and fillers in the manufacture of imitation leather, shade cloth, shingle stain, paper, and cardboard. Siennas and umbers are used in wood stains and wood fillers. The natural ochre is used as a pigment for linoleum and oilcloth; as a pigment in wood stains and wood fillers; and in colouring cement, stuccos, and mortar.

This report was prepared by Mr. A. R. Deir, Mining Statistician.

The Canadian price of red iron oxide, f.o.b. Toronto or Montreal, as given by Canadian Chemistry and Process Industries, remained at 2 to 8 cents a pound throughout 1947, while yellow, brown, and black iron oxides remained between 5 and 12 cents a pound.

Table 1 - PRINCIPAL STATISTICS OF THE NATURAL IRON OXIDES INDUSTRY IN CANADA, 1945-1947

	1945	1946	1947
Number of firms .....	5(x)	5(x)	6(x)
Number of employees: Administration ..	8	9	8
Workmen .....	43	51	46
Total .....	51	60	54
Salaries and wages: Salaries .....	\$ 13,382	\$ 15,748	\$ 13,816
Wages .....	\$ 44,629	\$ 61,979	\$ 68,553
Total .....	\$ 58,011	\$ 77,727	\$ 82,369
Selling value of products (gross) ....	\$ 172,053	\$ 152,268	\$ 258,322
Cost of fuel and purchased electricity ..	\$ 15,851	\$ 16,656	\$ 24,802
Cost of process supplies .....	\$ 5,900	\$ 4,200	\$ 6,628
Freight .....	\$ 13,650	\$ 15,161	\$ 9,474
Selling value of products (net) .....	\$ 136,652	\$ 116,251	\$ 217,418

(x) One producer in British Columbia, remainder in Quebec.

Table 2 - PRODUCTION OF NATURAL IRON OXIDES, BY PROVINCES, 1946 and 1947

	1946		1947	
	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$
Quebec (x) .....	12,268	146,401	13,360	257,621
British Columbia ....	427	5,867	58	701
TOTAL .....	12,695	152,268	13,418	258,322

(x) Includes crude and refined grades.

Table 3 - PRODUCTION OF NATURAL IRON OXIDES IN CANADA, 1928-1947

Year	Quantity	Value	Year	Quantity	Value
	Short tons	\$		Short tons	\$
1928 .....	5,414	111,198	1938 .....	5,821	71,769
1929 .....	6,518	115,932	1939 .....	6,015	88,418
1930 .....	6,596	83,873	1940 .....	9,979	111,874
1931 .....	5,520	49,205	1941 .....	10,045	142,069
1932 .....	5,240	46,161	1942 .....	9,304	151,653
1933 .....	4,357	53,450	1943 .....	8,401	135,893
1934 .....	4,959	66,166	1944 .....	8,599	150,250
1935 .....	5,516	77,075	1945 .....	10,314	172,053
1936 .....	5,854	69,630	1946 .....	12,695	152,268
1937 .....	6,197	83,640	1947 .....	13,418	258,322



Production of iron oxides in Canada since 1886 to the end of 1947 amounted to 370,140 tons valued at \$4,142,346.

Table 4 - IMPORTS INTO CANADA AND EXPORTS OF IRON OXIDES, 1946 and 1947

	1 9 4 6		1 9 4 7	
	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$
<u>Imports -</u>				
Ochres, ochrey earths, siennas and umbers .....	1,437	81,929	1,236	68,426
Oxides, fireproofs, rough stuff, fillers and colours, dry, n.o.p.	3,647	1,709,726	4,104	2,047,954
<u>Exports -</u>				
Iron oxides .....	4,366	199,619	5,387	313,017

Table 5 - CONSUMPTION OF IRON OXIDES IN SPECIFIED CANADIAN INDUSTRIES, 1938-1947

Year	Coke and Gas		Paints and Varnishes			
			Iron oxide pigments		Ochres, siennas and umbers	
	Quantity	Value	Quantity	Value	Quantity	Value
	Tons (a)	\$	Tons	\$	Tons	\$
1938 .....	(b)	41,013	822	70,736	487	41,062
1939 .....	(b)	35,417	882	80,274	523	46,134
1940 .....	5,417	42,491	1,146	112,826	575	62,636
1941 .....	5,133	36,480	1,602	187,836	464	58,385
1942 .....	4,600	33,790	2,334	253,383	412	52,155
1943 .....	6,568	45,946	2,321	222,858	440	68,425
1944 .....	9,194	71,545	2,614	242,234	648	69,092
1945 .....	7,357	75,441	2,799	310,434	671	71,231
1946 .....	9,385	69,899	2,564	288,190	543	75,769
1947 .....	10,105	78,244	2,865	339,151	404	57,876

(a) Oxide and purifying materials.

(b) Data not available.

Table 6 - NUMBER OF WORKMEN IN THE NATURAL IRON OXIDES INDUSTRY (x), BY MONTHS, 1946 and 1947

Month	1 9 4 6		1 9 4 7		Month	1 9 4 6		1 9 4 7	
	Mine	Mill	Mine	Mill		Mine	Mill	Mine	Mill
	(Number)					(Number)			
January..	3	30	4	29	July ....	38	40	39	22
February..	...	27	8	29	August ..	33	42	36	22
March ...	...	30	...	29	September	16	38	29	27
April ...	14	38	...	35	October..	17	35	21	26
May .....	13	39	17	24	November.	16	28	22	26
June ....	30	39	37	27	December.	12	28	19	30

(x) No underground work.



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Iron Oxides

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Table 7 - FUEL AND ELECTRICITY USED, 1946 and 1947

Kind	Unit of measure	1 9 4 6		1 9 4 7	
		Quantity	Value	Quantity	Value
			\$		\$
Bituminous coal -					
Imported .....	short ton	800	9,400	1,745	19,050
Anthracite coal -					
From United States .....	short ton	25	375	31	480
Gasoline (including gasoline used in cars and trucks .....	Imp.gal.	3,420	1,043	4,175	1,371
Kerosene or coal oil .....	Imp.gal.	100	20	100	24
Fuel oil and Diesel oil .....	Imp.gal.	1,500	180	915	168
Wood (cords of 128 cubic feet of piled wood) .....	cord	225	2,475	39	598
Electricity purchased for power and lighting (including service charge) .....	K.W.H.	226,064	3,163	222,480	3,111
TOTAL .....	...	...	16,656	...	24,802

DIRECTORY OF FIRMS IN THE IRON OXIDE MINING INDUSTRY, 1947

Name of Firm	Head Office Address	Location of Plant or Mine
<u>Quebec -</u>		
Argall, Mrs. Thomas H.	1695 Blvd. St. Louis, Trois Rivieres	Pointe du Lac
Girardin, Chas. D.	Yamachiche	Almaville en Haut
Hazler, J. H.	Cameron, Wisconsin, U.S.A.	St. Louis de France
Lafreniere, Philias	St. Louis de France	St. Louis de France
The Sherwin-Williams Co. of Canada Ltd. (x)	2875 Centre St., Montreal	Red Mill, Champlain Co.
Vennes, Wm.	90-6eme Ave., Grand'Mere	St. Adelphe
<u>British Columbia -</u>		
Scott, F. B.	Squamish	Alta Lake

(x) Produces refined grades.