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OTTAWA - CANADA

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IRON OXIDES (OCHRE) - 1943

Production (producers' sales) in Canada of ochreous iron oxides during 1943 totalled 8,401 short tons valued at \$135,893 compared with 9,304 short tons worth \$151,653 in 1942. The output in these years included the mineral in both the crude and refined state. Of the 1943 shipments, 7,998 short tons valued at \$131,057 were made from deposits located in the province of Quebec and 403 short tons worth \$4,836 from British Columbia.

Capital employed by the 5 firms reported as active in the production of iron oxides totalled \$254,891 in 1943; employees numbered 47, and salaries and wages paid amounted to \$46,554. Fuel and electricity used by the industry as a whole during the year under review totalled \$19,438 and the cost of explosives and other process supplies consumed was reported at \$7,590. The maximum period of mining operations as reported by any single operator in 1943 was from May 17 to December 11.

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

"Ochreous iron oxide, which is sold uncalcined and is used chiefly in the purification of illuminating gas, comprises the bulk of the minerals produced under this category. The calcined form of ochreous iron oxide is used in the manufacture of paints. A smaller quantity of natural iron oxides associated with clay-like materials in the form of umbers and siennas is produced in the raw and in the calcined state for use as pigments in paints. The Canadian iron oxide industry is small and the quantity produced shows little change from year to year. Present producing localities have met the requirements of the domestic pigment trade for the cheaper grades for many years. The production for some time past has come mostly from deposits near Trois Rivières, Quebec, but there are other deposits in different parts of Canada that could be operated were the demand sufficient to warrant doing so.

"In 1943 Sherwin-Williams Company of Canada operated deposits at Red Mill and near Champlain, Champlain county, Quebec. It was the only producer of calcined iron oxides, the others having marketed only air-dried products. Its calcined and air-floated mineral products, produced to rigid specifications, are essential for use in the war industries. An additional calcining unit of a new design was put in production in 1943. The shortage of cord wood had become so serious that the operators were faced with the closing of the plant or the rebuilding of the furnaces to utilize other fuels that might be available. It was finally decided to convert the furnaces to the use of bituminous coal as fuel, and this required considerable structural changes in the furnaces, including the installation of underfeed stokers. The problem of the sulphur gases (SO₂ and SO₃) from the use of bituminous coal was satisfactorily solved and the furnaces are now operating as efficiently as with fuel, with the added advantage that pyrometric control of the furnace heats can be adapted to stoker firing with coal, if deemed advisable, which was impossible with wood firing by hand. During 1943 some changes in processing of some of the oxides was made to better fit them for the requirements for war purposes.

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"Deposits at Almaville and St. Louis, Champlain county, and at Les Forges, St. Maurice county, were operated by Charles D. Girardin of Yamachiche. Mauricy Oxide Company of Grand'Mère operated its property at St. Adelphe, Champlain county, and Thos. H. Argall of Trois Rivières operated his property near Pointe-du-Lac, St. Maurice county. In the past, deposits near St. Anne de Beaupré, Montmorency county; in Lynch township, Labelle county; and at St. Raymond, Portneuf county, Quebec, were operated.

"In British Columbia, there has been a small production of iron oxide from Alta Lake, New Westminster district, and from oxide beds in the Windermere district, since 1923. The oxide is used chiefly for gas purification.

"In Alberta and Saskatchewan, several deposits of ochre are known, some of which have commercial possibilities, but they are difficult of access and the market is limited and they have received little active attention. Large deposits near Grand Rapids and Cedar Lake in northern Manitoba remain undeveloped for similar reasons. In Nova Scotia, beds of ochre and umber were operated to a small extent in the past."

The Canadian price of red iron oxide in 1943 as given by Canadian Chemistry and Process Industries remained at 2 to 7 cents a pound throughout the year.

Table 1 - PRINCIPAL STATISTICS OF THE NATURAL IRON OXIDES INDUSTRY IN CANADA,
1941 - 1943

		1 9 4 1	1 9 4 2	1 9 4 3
Number of firms		4(a)	5(d)	5(d)
Capital employed	\$	189,877	194,541	254,891
Number of employees--On salaries		6(c)	6(e)	7(b)
On wages		37	41	40
Total		43	47	47
Salaries and wages--Salaries	\$	8,571	9,174	10,293
Wages	\$	33,581	55,114	36,261
Total	\$	42,152	44,288	46,554
Selling value of products (gross)	\$	142,069	151,653	135,895
Cost of fuel and purchased electricity	\$	15,697	20,835	19,438
Cost of process supplies	\$	5,697	5,780	7,590
Selling value of products (net)	\$	120,675	125,038	108,865

(a) Three producing in Quebec and one in British Columbia.

(b) Three females.

(c) One female.

(d) Four producing in Quebec and one in British Columbia.

(e) Two females.

Table 2 - WAGE-EARNERS(x) EMPLOYED, BY MONTHS, 1942 and 1943

Table 2 - Water Consumed in the Boiling, St. Mary's, 1942 and 1943									
Month	Number				Month	Number			
	1942		1943			1942		1943	
	Mine	Mill	Mine	Mill		Mine	Mill	Mine	Mill
January..	2	24	...	31	July	30	28	32	24
February.	...	29	...	31	August ..	25	28	36	21
March ...	...	33	...	31	September	23	28	27	22
April ...	6	28	...	31	October..	14	24	9	23
May	8	27	9	22	November.	10	27	6	26
June	31	25	20	23	December.	10	26	7	25

(x) No underground work and no female wage-earners.

Table 3 - WAGE-EARNERS WORKING THE NUMBER OF HOURS SPECIFIED DURING ONE WEEK IN MONTH OF HIGHEST EMPLOYMENT, 1943

Hours per Week	Number of Employees
48 hours	34
49-50 hours .....	...
51-54 hours	15
Grand total number of employees in week specified	49
Total wages paid in week specified	\$ 1,077

Table 4 - FUEL AND ELECTRICITY USED DURING 1942 and 1943

Kind	Unit of measure	1942		1943	
		Quantity	Value	Quantity	Value
			\$		\$
Bituminous coal (a) From Canadian mines	short ton	22	214	210	2,100
(b) Imported	short ton	...	...	563	6,656
Anthracite coal (a) From United States	short ton	8	128	12	156
(b) Other	short ton	...	...	...	...
Lignite coal	short ton	...	...	...	...
Coke	short ton	3	36	3	42
Gasoline (including gasoline used in cars and trucks) ..	Imp.gal.	373	277	1,327	413
Kerosene or coal oil	Imp.gal.	129	24	100	19
Fuel oil and diesel oil	Imp.gal.	1,253	252	865	173
Wood (cords of 128 cubic feet of piled wood)	cord	3,358	16,790	972	6,804
Gas (a) Manufactured	M cu.ft.	...	...	...	...
(b) Natural	M cu.ft.	...	...	...	...
Electricity purchased for power and lighting (including service charge)	K.W.H.	200,000	3,114	233,800	3,075
Electricity purchased for other purposes (including service charge)	K.W.H.
TOTAL	20,835	...	19,438
Electricity generated (a) For own use ..	K.W.H.
(b) For sale ..	K.W.H.

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Equipment used in 1942 by the industry included 7 electric motors with a total rating of 86 horse power; and in 1943 there were 15 electric motors with total rating of 100 horse power.

Table 5 - PRODUCTION (SALES) IN CANADA OF IRON OXIDES, 1942 and 1943

	1	9	4	2		1	9	4	3
	Quantity		Value			Quantity		Value	
			\$					\$	
Quebec (x)	8,866		147,049			7,998		131,057	
British Columbia	438		4,604			403		4,836	
TOTAL	9,304		151,653			8,401		135,893	

(x) Includes crude and refined grades.

Table 6 - PRODUCTION OF IRON OXIDES IN CANADA, 1927-1943

Year	Quantity	Value	Year	Quantity	Value
	Short tons	\$		Short tons	\$
1927	6,125	103,536	1936	5,854	69,630
1928	5,414	111,198	1937	6,197	83,640
1929	6,518	115,932	1938	5,821	71,769
1930	6,596	83,873	1939	6,015	88,418
1931	5,520	49,205	1940	9,979	111,874
1932	5,240	46,161	1941	10,045	142,069
1933	4,357	53,450	1942	9,304	151,653
1934	4,959	66,166	1943	8,401	135,893
1935	5,516	77,075			

The production of iron oxides in Canada since the first recording of statistics in 1886 to the end of 1943 totalled 325,114 short tons valued at \$3,409,453.

Table 7 - CONSUMPTION OF IRON OXIDES IN SPECIFIED CANADIAN INDUSTRIES, 1932-1942

Year	Coke and gas		Paints, pigments and varnishes		Paints, pigments and varnishes	
	Quantity	Value	Quantity	Value	Quantity	Value
	Tons (a)	\$	Tons (b)	\$	Tons (c)	\$
1932	3,736	35,284	701	52,323	512	48,047
1933	2,734	29,076	504	43,826	491	43,671
1934	3,757	47,010	580	53,539	544	53,236
1935	3,701	46,204	990	77,758	564	56,219
1936	(d)	41,291	733	67,850	634	65,819
1937	(d)	40,414	890	81,709	566	49,082
1938	(d)	41,013	822	70,736	487	41,062
1939	(d)	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

(a) Oxide and purifying materials.

(b) Iron oxide pigments.

(c) Ochres, siennas and umbers.

(d) Data not available.

NOTE: Complete data for 1943 not yet available.

Imports into Canada of ochres, ochrey earths and siennas totalled 2,250,850 pounds valued at \$76,644 in 1943 compared with 2,067,212 pounds worth \$61,488 in 1942. Exports from Canada of iron oxide in 1943 totalled 3,661,200 pounds valued at \$131,830 as against 6,990,100 pounds at \$237,479 in 1942.

DIRECTORY OF FIRMS IN THE IRON OXIDE MINING INDUSTRIY, 1943

Name of Firm	Head Office Address	Location of Plant or Mine
<u>QUEBEC</u> -		
Argall, Thomas H.	Pointe du Lac	Pointe du Lac
Girardin, Chas. D.	Yamachiche	Almaville
Mauricy Oxide Co.	259 .. 6th Ave., Grand'Mère	St. Adelphe
The Sherwin-Williams Co. of Canada Ltd. (x)	2875 Centre St., Montreal	Red Mill
<u>BRITISH COLUMBIA</u> -		
Davidson, J. G.	346 Surfston Place, La Jolla, California, U.S.A.	Alta Lake

(x) Produce refined grades.

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