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DOMINION BUREAU OF STATISTICS
MINING, METALLURGICAL AND CHEMICAL BRANCH
OTTAWA - CANADA

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IRON OXIDES (OCHRE) - 1937.

Production (producers' sales) in Canada during 1937 of iron oxides, crude and calcined, totalled 6,197 short tons valued at \$83,640 compared with 5,854 short tons at \$69,630 in 1936. Both the quantity and value of shipments during the year under review were the greatest since 1930. Of the output in 1937 properties in the Province of Quebec contributed 5,617 tons, worth \$77,640 while the balance of Canadian production originated in British Columbia.

In 1937 the consumption of oxide or purifying materials by the Canadian coke and gas industries was estimated at \$40,414 while relatively large quantities of iron oxides, including ochres, siennas and umbers were used in Canada for the manufacture of paints and pigments.

Imports into Canada of ochres, ochrey earths, siennas and umbers totalled 1,823 short tons valued at \$56,084 in 1937 and of these 1,101 short tons worth \$55,510 came from the United States, 289 tons at \$8,952 from France and 173 tons at \$3,353 from the United Kingdom.

The number of operators comprising the Canadian Iron Oxides Industry in 1937 totalled six, of which five reported commercial shipments during the year. In Quebec the minerals were shipped from deposits occurring at St-Adelphe, Almaville, La Pointe du Lac and Red Mill in Champlain county. At Lacoste in the same province the Iron Oxide Products Co. Ltd., commenced the construction of a new plant with an estimated capacity of ten tons per day. Production of ochres or bog iron in British Columbia in 1937 came entirely from deposits situated near Mons; shipments from here were consigned solely to gas plants located in Vancouver and Victoria.

Mineral pigments have been produced in Canada for many years. In 1851 an important deposit of ochre was worked in Quebec at Pointe du Lac, St. Maurice county. These pigments, as produced in Canada in 1886 and classified as iron oxides, amounted to 350 tons valued at \$2,350. The annual variation in production has been considerable since that date; the low point for the industry being reached in 1890 when 275 tons were extracted, while the maximum output, 19,128 tons, valued at \$157,909, was attained in 1920. The mineral in the crude condition as shipped by Canadian producers is utilized as a purifying agent in the manufacture of heating or illuminating gas, while the calcined or higher grades are consumed in the paint and pigment industries.

In 1937 the Chemical Trade Journal, London, announced that the output of iron oxides in Germany had increased considerably during the last two years, due partly to the improved methods that had been adopted for the economic utilization of all kinds of iron liquor and chemical waste materials. Iron oxide is now used in greater quantities in Germany as a substitute for red lead as rust proofing and

corrosion-resistant medium. Production figures are not available but the expansion in output is indicated by the sharp reduction in imports which dropped from 5,385 metric tons in 1934 to 90 metric tons in 1936; exports, on the other hand, advanced gradually from 10,410 metric tons in 1934 to 13,696 in 1936.

Table 1 - PRINCIPAL STATISTICS OF THE NATURAL IRON OXIDES INDUSTRY IN CANADA, 1935, 1936 and 1937.

	1935	1936	1937
Number of firms	5	6(a)	3 6(b)
Capital employed	\$ 175,935	167,499	212,248
Number of employees - On salaries	2	3	6
On wages	30	36	44
Total	32	39	50
Salaries and wages - Salaries	\$ 3,472	3,792	8,770
Wages	\$ 23,276	26,489	26,598
Total	\$ 26,748	30,281	35,368
Selling value of products (gross)	\$ 77,075	69,630	83,640
Cost of fuel and purchased electricity	\$ 12,229	10,909	13,368
Cost of process supplies	\$ 10	510	510
Selling value of products (net)	\$ 64,836	58,211	69,762

(a) Four (4) producing. (b) Five (5) producing.

Table 2 - WAGE-EARNERS EMPLOYED, BY MONTHS, 1935, 1936 and 1937.

Months	Number			Months	Number		
	1935	1936	1937		1935	1936	1937
			Mine Mill				Mine Mill
January	38	26	22	July	29	51	35 28
February	21	25	22	August	34	60	35 26
March	22	25	13 23	September ...	42	49	22 23
April	21	24	8 24	October	36	44	16 30
May	28	29	17 40	November	26	34	13 32
June	31	38	34 30	December	28	26	8 32

Table 3 - NUMBER OF WAGE-EARNERS IN MONTH OF HIGHEST EMPLOYMENT DURING 1937 - WHOSE REGULAR HOURS PER WEEK WERE -

Hours	Number	Hours	Number
40 or less	-	55	5
41 - 43	-	60	70
48	51	Over 60	-

Table 4 - TOTAL FUEL AND ELECTRICITY USED, 1937.

Kind	Unit of Measure	1 9 3 7	
		Quantity	Value
			\$
Anthracite coal	short ton	41	480
Gasoline	Imp. gal.	1,080	246
Kerosene	Imp. gal.	40	8
Wood	cords	3,032	10,010
Electricity purchased	K.W.H.	140,000	2,624
TOTAL COST	\$...	13,368

Table 5 - PRODUCTION IN CANADA, IMPORTS AND EXPORTS OF IRON OXIDES, 1936 and 1937.

	1 9 3 6		1 9 3 7	
	Quantity	Value	Quantity	Value
	Tons	\$	Tons	\$
PRODUCTION (SALES) (x) -				
Quebec	5,458	65,630	5,617	77,640
British Columbia	396	4,000	580	6,000
TOTAL	5,854	69,630	6,197	83,640
IMPORTS -				
Ochres, ochrey earths, siennas and umbers	1,506	49,750	1,623	56,084
Oxides, fireproofs, rough stuff, fillers and colours, dry, n.o.p.	2,999	721,614	4,042	844,149
EXPORTS -				
Mineral pigments, iron oxides, ochres, etc.	1,572	92,011	1,755	105,240

(x) Includes both crude and refined.

Production of iron oxides in Canada during the first six months of 1938 totalled 1,350 short tons valued at \$27,105 compared with 2,735 short tons worth \$42,580 during the corresponding period of 1937. Of the output in 1938, 926 short tons valued at \$22,545 came from the province of Quebec.

Table 6 - PRODUCTION OF IRON OXIDES IN CANADA, 1928 - 1937.

Year	Quantity	Value	Year	Quantity	Value
	Short tons	\$		Short tons	\$
1928	5,414	111,198	1933	4,357	53,450
1929	6,518	115,932	1934	4,959	66,166
1930	6,596	83,873	1935	5,516	77,075
1931	5,520	49,205	1936	5,854	69,630
1932	5,240	46,161	1937	6,197	83,640

Table 7 - CONSUMPTION OF IRON OXIDES IN SPECIFIED CANADIAN INDUSTRIES, 1932-1937.

Years	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	48,037
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

(a) Oxide or purifying materials.

(b) Iron oxide pigments.

(c) Ochres, siennas and umbers.

(d) Data not available.

NOTE: A classification of iron oxide colours is contained in the Bureau of Statistics annual Mineral Production report for 1936.

PRICES - Canadian - October, 1938 - (x)

Iron Oxides - Red 2 cents to 6½ cents per pound.
 Yellow 5 cents to 8½ cents per pound.
 Brown 5 cents to 6½ cents per pound.
 Black 3½ cents to 7½ cents per pound.

Siennas 5 cents to 7½ cents per pound.

Umbers 4¼ cents to 5 cents per pound.

(x) Canadian Chemistry and Metallurgy, Toronto)

PRICES - United States - November, 1938 -

Iron Oxide per pounds: standard (No. 1 quality) Spanish red, 3 to 4 cents nominal; domestic earth 2½ to 4½ cents.

Ochre per ton, f.o.b. Georgia mines; \$19 in sacks; \$22.50 in barrels. Buff clay, 98 per cent through 325 mesh, \$19. F.O.B. Virginia, dark yellow, 300 mesh, 60 per cent ferric oxide, in jute bags, \$19.50. (x)

(x) Engineering and Mining Journal - Metal and Mineral Markets - New York).

LIST OF FIRMS IN THE CANADIAN IRON OXIDES MINING INDUSTRY, 1937.

<u>Name of Firm</u>	<u>Head Office Address</u>	<u>Location of Plant</u>
<u>QUEBEC -</u>		
Argall, Thos. H.	639 St. Angel St., Three Rivers	Pointe du Lac
Girardin, Chas. D.	Yamachiche	Almaville
Iron Oxide Products Co. Ltd. (x)	680 Sherbrooke St. W., Montreal	Lacoste
Sherwin-Williams Co. of Canada, Ltd.	2875 Centre St., Montreal	Red Mill
Vennes, Wm.	Grand Mère	St. Adelphe
<u>BRITISH COLUMBIA -</u>		
Davidson, J. G.	3498 Marine Drive, Vancouver	Rainbow Lodge
McDonald, R. W. (x)	123 Grizzly St., Banff, Alberta	Windermere Dist.

(x) Active, but no production.