OTTAWA
3rd. March 1919

REPORT OF ORE DRESSING AND METALLURGICAL LABORATORIES

TEST No. 110

A shipment of 420 pounds, in two boxes, of Chrome ore was received on December 24th. 1918 from Dr. Ferrier, of the Canadian Munition Resources Commission.

On examination the chromite was found to be finely crystalline, much more so than the Black Lake chromite, necessitating finer grinding to free it from the gangue. The gangue consisted of serpentine, iron pyrites were also present in the ore.

The ore was crushed to 50 mesh and sampled for analysis which gave the following:-

Cr_2O_3 ---------- 10.7%

A small preliminary test was run on 24 pounds on a small Wilfley table. The weights, analysis and content of the products were as follow:-

Ore taken		24 pounds
Analysis	Cr_2O_3	10.7 %
Content	"	2.57 pounds
Concentrates obtained		3.0 pounds
Analysis	Cr_2O_3	47.34 %
		2.40 %
Content	Cr_2O_3	1.42 pounds
Percentage	" values	55.3
Middlings obtained		1.5 pounds
Analysis	Cr_2O_3	12.75 %
Content	"	0.19 pounds
Percentage of	" values	7.5
Tailings obtained		12.5 pounds
Analysis	Cr_2O_3	4.56 %
Content	"	0.57 pounds
Percentage of	" values	22.2
Slime Loss		7.0 pounds
Analysis	Cr_2O_3	5.56 %
Content	"	0.39 pounds
Percentage of	" values	15.0

A larger test was then conducted on the remainder of the ore on the large Wilfley table. Two grades of concentrates were cut out, a middling held and a tailing run to waste after sampling. The results were as follow:-

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Weight of ore taken			390 pounds
Analysis	Cr_2O_3		10.70 %
Content	"		41.73 pounds
First concentrates			37 pounds
Analysis	Cr_2O_3		48.88 %
	S		2.20 %
Content	Cr_2O_3		18.09 pounds
Percentage of	"	values	43.4
Second concentrates			29 pounds
Analysis	Cr_2O_3		42.10 %
Content.....	S		1.13 %
	Cr_2O_3		12.21 pounds
Percentage of	"	values	29.3
Middlings			11 pounds
Analysis	Cr_2O_3		17.00 %
Content	"		1.87 pounds
Percentage of	"	values	4.5
Tailings & Slime loss			313 pounds
Analysis	Cr_2O_3		3.05 %
Content	"		9.56 pounds
Percentage of	"	values	22.8

Tailings as sample, which does not include slime loss, showed an analysis of 2.50 % Cr203

SUMMARY & CONCLUSIONS

The above results show that the chrome values are practicallu all freed from the gangue at 50 mesh; that a satisfactory separation can be made by water concentration on tables resulting in a recovery of 72.7 per cent of the chromite values in concentrates of first grade - 48.88 per cent Cr203 and second grade Cr203 42.10 per cent. Both these grades are metallurgical products and can be used for reduction to ferrochrome, but on account of the iron sulphide present in the ore, which reports in the concentrates by water separation on tables, they could not be classed as a chemical product.
