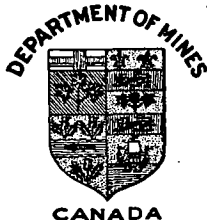


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ALL OFFICIAL CORRESPONDENCE  
SHOULD BE ADDRESSED TO THE DIRECTOR.

DIVISION OF ORE DRESSING AND  
METALLURGY

G. C. MACKENZIE, B.SC., CHIEF OF DIVISION  
W. B. TIMM, B.SC., 1ST ENGINEER  
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H. C. MABEE, B.SC., CHEMIST  
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B. M. DERRY, MILLMAN



MINES BRANCH

EUGENE HAANEL, PH. D.  
Director.

OTTAWA, Feb 5th 1919

REPORT OF THE ORE DRESSING & METALLURGICAL  
LABORATORIES

Test No. 106

A shipment of 430 pounds of manganese ore in two lots were received on October 22nd, 1918, from Cowichan Lake, Vancouver Island, B.C.

LOT No. 1 consisted of three sacks from the Black Prince Claim, and gave the following analysis:-

Metallic Manganese	-	22.09	Percent.
" Iron	-	3.22	"
" Silica	-	58.16	"
" Phosphorus	-	0.061	"
" Sulphur	-	0.165	"

LOT No. 2 consisted of one sack from the Pacific claim, and gave the following analysis:-

Metallic Manganese	-	15.66	percent.
" Iron	-	6.39	"
" Silica	-	66.92	"
" Phosphorus	-	0.089	"
" Sulphur	-	0.166	"

Concentration tests by jigging and tabling were made on these two lots to determine whether the ore could be treated successfully in this manner.

Each lot was crushed to pass 3 mesh or to  $\frac{1}{4}$ " size, and sized on 6, 12, 20 and 30 mesh screens, the sizes coarser than 30 mesh were jigged while the sizes through 30-mesh were tabled.

The weights and analyses of the resulting products were as follows :-

Lot No. 1

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LOT No. 1

<u>Mesh.</u>	<u>Product.</u>	<u>Weight Lbs.</u>	<u>Percent Mn.</u>	<u>Percent Fe.</u>
-3+6	Jig Concentrates	17.5	37.60	2.68
-3+6	" Tailings	106.0	19.40	2.50
-6+12	" Concentrates	12.0	32.54	2.40
-6+12	" Tailings	57.0	19.44	2.50
-12+20	" Concentrates	7.0	25.07	1.70
-12+20	" Tailings	17.5	21.70	1.70
-20+30	" Concentrates	7.0	24.63	0.74
-20+30	" Tailings	7.5	23.30	0.79
-30	Table concentrates	4.5	37.45	1.00
-30	" Tailings	24.0	19.78	0.70

Lot No. 2

<u>Mesh.</u>	<u>Product.</u>	<u>Weight Lbs.</u>	<u>Percent Mn.</u>	<u>Percent Fe.</u>
-3+6	Jig Concentrates	7.5	26.65	4.25
-3+6	" Tailings	34.5	12.30	4.20
-6+12	" Concentrates	2.5	25.33	3.40
-6+12	" Tailings	14.5	12.87	3.52
-12+20	" Concentrates	2.0	20.84	2.70
-12+20	" Tailings	3.5	11.59	2.85
-20+30	" Concentrates	0.5	16.65	1.25
-20+30	" Tailings	2.5	16.31	1.50
-30	Table concentrates	0.5	32.12	2.65
-30	" Tailings	4.0	14.87	1.40

CONCLUSIONS:- The above results show conclusively that the ore cannot be concentrated by specific gravity methods, using jigs and tables. A partial separation was made but the ratio of concentration was very small, and the percentage of manganese in both concentrates and tailings unsatisfactory.