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OTTAWA,

15th. JUNE, 1920

REPORT OF THE ORE DRESSING AND METALLURGICAL LABORATORIES

Test No. 129

A shipment of graphite ore of approximately 65 pounds was received on December 13th. 1919, from W. F. Hadley, 17 Main Street, Hull, Que. The ore itself came from Blake Township, Quebec, and consisted of flake graphite of fair size in a gangue of quartz with a small amount of pyrite, the whole being gneiss-like, and somewhat weathered.

The ore was crushed to 20 mesh and sampled. An analysis of the sample obtained in this way gave 15.80% carbon.

A number of tests were made on a small Janney and a small ruth flotation machine, to determine the adaptability of the ore to the flotation method of concentration.

The results of these tests are contained in the table following.

Run #1 Ore crushed to 20 mesh; pine oil and coal oil used; ground for five minutes in a pebble mill; floated in a small Janney machine; refloated the concentrates in the same machine.

Run #2 Ore crushed to 20 mesh; pine oil and coal oil used; ground for five minutes in a pebble mill; floated in a small Janney machine; refloated the concentrates three times in the same machine.

Run #3 Ore crushed to 20 mesh; pine oil and coal oil used; ground for five minutes in a pebble mill; floated in a small Ruth machine; reground concentrates in a pebble mill for fifteen minutes and then refloated them twice in the same machine.

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## TEST No. 129

## C O N C E N T R A T E S

Run No.	Wt. of ore taken, GRMS	+35 mesh			-35 +65			-65 +150			-150								
		Analysis % C.	Content grams C.	Wt. grams	Analysis % C.	Content grams C.	% of C. values	Wt. grams	Analysis % C.	Content grams C.	% of C. values	Wt. grams	Analysis % C.	Content grams C.	% of C. values				
1.	1000	15.80	158.0	43.9	76.00	33.4	22.7	89.8	51.05	45.8	31.1	64.2	51.25	32.9	22.4	47.1	59.90	28.2	19.2
2.	600	15.80	94.8	21.2	92.5	19.6	21.4	41.2	73.0	30.4	33.2	30.0	64.35	19.3	21.1	15.6	75.80	11.8	12.9
3.	1200	15.80	189.6	63.6	87.0	55.6	28.8	106	57.70	61.2	31.7	107.8	34.80	37.5	19.5	63.6	51.55	32.8	17.0

## M I D D L I N G S

## T A I L I N G S

No.	No. 1			No. 2			No. 3									
	Wt. grams	Analysis % C.	Content grams C.	Wt. grams	Analysis % C.	Content grams C.	Wt. grams	Analysis % C.	Content grams C.	Wt. grams	Analysis % C.	Content grams C.	Wt. grams	Analysis % C.	Content grams C.	
111	2.35	2.6	1.8							580	.70	4.1	2.8			
20	26.50	5.3	5.8	20	13.80	2.8	3.0	46	2.80	1.3	1.4	378	.30	1.1	1.2	
44.	3.65	1.6	.8	166	.80	1.3	.7						631	.45	2.8	1.5

SUMMARY & CONCLUSIONS:-

From the results of the test work conducted the following conclusions can be deducted:-

FIRST            The ore is adaptable to concentration by flotation of the graphite from its gangue

SECOND            A high grade flake can be made as Run #2 shows that the +35 concentrates have an assay of 92.45% Carbon. Flotation may have to be assisted by table concentration, and by finishing machines to obtain marketable products. This would require further test work on a larger scale.

THIRD            A high recovery is obtainable. The laboratory tests show recoveries of the carbon content of around 95%

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CHIEF OF DIVISION.

T/H.