

Ottawa, Ontario, May 2nd, 1929.

R E P O R T

of the

ORE DRESSING AND METALLURGICAL LABORATORIES

Report No. 319

The Recovery of Gold from the Ore of the Jackson-Manion Mines, Ltd., Woman Lake, Ontario.

By A. K. Anderson.

Shipments: Two shipments of ore were received. The first consisted of eight bags, gross weight 481 pounds. The second was of 15 bags, 976 pounds weight.

Characteristics of the Ore: Both shipments were of clean white quartz, carrying a very small percentage of iron sulphides. Free gold was visible. Shipment No. 1 was of such a high-grade nature that apart from sampling and assaying, no test-work was done on it. All tests were made on Shipment No. 2.

Purpose of Experimental Tests: The investigation was carried out to determine what recovery of the gold can be obtained by amalgamation and by cyanidation. Such pertinent factors as fineness of grinding required to secure maximum results, and cyanide consumption were also determined.

Sampling and Analysis: Due to free gold present, both shipments were sampled and assayed in duplicate. Each lot was crushed to pass 14 mesh, and put through a Jones Riffle Sampler. Each half thus obtained was handled separately to secure duplicate samples. They were again cut in half, thus giving one quarter of the original bulk. This quarter portion was crushed and screened through 35 mesh, and again cut in half, yielding 1/8th of the original lot. This portion was ground to pass 65 mesh, and cut twice giving 1/32nd of the total. This was ground and screened to pass 100 mesh, and the final sample

319

prepared for assay. All metallics remaining on the different size screens were collected and the gold in them included in the calculation of the assays.

The assays of the two lots are as follows:

Shipment No. 1	A	14.16	oz. Au.
	B	15.04	" "
Average Assay		14.70	oz. Au.
Shipment No. 2	A	0.78	oz. Au.
	B	0.77	" "
Average Assay		0.77	oz. Au.

As the ore contains such a small percentage of sulphides, concentration either by flotation or tabling would not be practical. The investigation consisted wholly of amalgamation and cyanide tests for the extraction of the gold content.

The behaviour of the ore at different screen sizes was investigated. Three portions of 1000 grams each were crushed to pass, 1st 65 mesh, 2nd 100 mesh, and 3rd 150 mesh. Amalgamation was tried on the coarsely ground lot, minus 65 mesh. Cyanide tests were made on all three. The tailings from the cyanide tests were screened through 150 mesh, and the +150 and -150 portions assayed separately. This was done to note any difference in the gold content of the coarser and finer material in the sample under investigation. The tests in detail follow.

Test No. 1.

Amalgamation at 65 mesh.

100 grams of the ore -65 mesh was amalgamated with mercury. The amalgam was separated, and the tailing assayed.

<u>Screen Sizes</u>	<u>%</u>
+ 65	0.0
-65 +100	48.0
-100 +150	10.5
-150 +200	12.5
-200	29.0
	100.0

	<u>Au ozs/ton</u>
Head Assay	0.77
Tailing Assay	0.44
Recovery	42.9 %

Test No. 6

This test was made under the same conditions as Test 5, and run for 72 hours, instead of 48 hours.

Strength of Solution at start, lb/ton KCN = 2.0
 Lime added " " " 6.0
 Strength of Solution after 72 hrs " KCN = 1.80
 CaO 0.80
 Consumption, lb/ton ore KCN = 0.40
 CaO 4.4

	Assay
	Au oz/ ton
Heads	0.77
Tailing	0.02
Recovery	97.4%

This test shows that no advantage is obtained by increasing the time of agitation longer than 48 hours. The cyanide consumed remains the same, 0.40 lb. per ton of ore, while the lime consumption shows a slight increase.

The following tabulation of the cyanide tests shows the results secured in the various tests.

Test No.	Mesh : Grinding	Time of : Agitation, Hrs.	KCN consumed : lbs/ton	Lime consu- : med lbs/ton	tailing : Au oz/ton	% : Recovery
2	- 65	48	0.20	4.4	0.09	88.3
3	-100	48	0.30	4.8	0.04	94.8
4	-150	48	0.40	4.8	0.026	96.6
5	-150	48	0.40	4.1	0.02	97.4
6	-150	72	0.40	4.4	0.02	97.4

The test work done shows quite clearly that cyanidation of the ore will yield a high recovery of the gold content. Fine Grinding is indicated, as shown by the analysis of the tailing from the various tests. When the grinding is such that 59.5% of the ore remains on 150 mesh, the tailing assay is 0.04 oz, and when all passes 150 mesh, with 78% through 200 mesh, the tailing is 0.02 oz.

The process indicated is an all-slime cyanide mill, using from 6 to 7 lb. lime per ton of ore, and a cyanide solution of from one to two lb. cyanide per ton.

The ore was supplied contains practically no sulphides. Concentration, therefore, will find no place in the flow-sheet unless at depth, the nature of the ore-body should change.

Due to the absence of refractory minerals or substances harmful to the cyanide process, the problem is a simple one, a high recovery being obtained on fine grinding.

Jackson Manion Mines, Ltd.

Assay Au ozs/ton
 Shipment #1 14.70 ozs.
 Shipment #2 0.77 ozs.

All Tests were run on Shipment #2.

Amalgamation Test.

Grinding -65 = 0.0
 +100 = 48.0%
Recovery = 42.9%

Cyanidation

Test No.	% Grinding			Time of agitation hrs.	KCN lbs/ton consumed	CaO lbs/ton consumed	Extraction %
	+65 +100	+100 +150	+150 +200				
1	0.0 48.0			48	0.20	4.4	88.3
2		0.0 25.4		48	0.30	4.8	94.8
3			0.0 21.6	48	0.40	4.8	96.6
4			0.0 21.6	48	0.40	4.1	97.4
5			0.0 21.6	72	0.40	4.4	97.4

Screen Analysis on Test No. 3 Assay ozs/ton
 + 200 0.05
 - 200 0.02

This ore yields readily to cyanidation. Fine grinding 75% through 200 mesh should give maximum results.

4/26/29.

W. Anderson

JACKSON-MANION MINES LIMITED

(NO PERSONAL LIABILITY)

BANK OF HAMILTON BUILDING

TORONTO 2

CANADA

April 13, 1929.

Mr. W. B. Timm,
Department of Mines,
Ottawa, Ontario.

Dear Sir:

We duly received your favor of the 6th. inst. and were waiting for the assay results on the second shipment before replying.

We also received your favor of April 11th., and in reply, wish to say, that we think if you tested the second shipment only, that it would give us a fair idea of the treatment required for this ore.

What would the charge be for smelting the 481 lbs. and returning to us the gold button from same.

Yours very truly,

JACKSON MANION MINES LIMITED.

HEH:GW.

H. E. Hancock

Copy for plans

Ottawa, April 15th, 1929.

Jackson Manion Mines Ltd.,
Bank of Hamilton Building,
Toronto 2, Ontario.

Dear Sirs:-

I have instructed our engineers to proceed with the test work on your No. 2. shipment in compliance with your letter of the 13th inst.

With regard to the first shipment we would have to arrange to run this ore in a clean up barrel, amalgamate the free gold in the barrel and on plates and the cost of making this clean up, retorting and melting the sponge to bullion, would be more than what gold we would get from it.

We do not care to do this class of work as it takes too much time from our regular test work. I would suggest that you communicate with Mr. James Hill of the Haileybury School of Mines. He cleaned up some high grade from Bobjo lately and would likely do the same for you. We will be glad to ship it to him if you can make the arrangements.

Yours very truly,

W.B. Timm,
Chief of Division.

WBT/LCH

O T T A W A, April 29th, 1929.

Jackson-Manion Mines,
Bank of Hamilton Bldg.,
Toronto 2, Ont.

ATTENTION! Mr. H.E. Harcourt, Manager.
Dear Sir:

I beg to give you a brief summary of the
test work on your No. 2. shipment of gold ore, in
advance of our official report.

Yours very truly,

WBT/LCH

W.B. Timm,
Chief of Division.

JACKSON-MANION MINES LIMITED

(NO PERSONAL LIABILITY)

BANK OF HAMILTON BUILDING

TORONTO 2

CANADA

On May 8, 1929.

Mr. W. B. Timm,
Department of Mines,
Ottawa, Ontario.

Dear Sir:

We wish to thank you for your report under date of May 2nd., made by Mr. Anderson on the samples of Ore which were forwarded to you from the Jackson Manion.

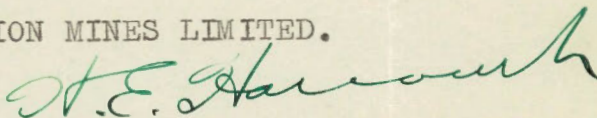
We are very glad to know that no refractory minerals or substances are present in the Ore that would make a high recovery difficult.

Again thanking you for your kind efforts in this matter, we are

Yours very truly,

JACKSON MANION MINES LIMITED.

HEH:GW.



Ottawa, August 7th, 1929.

Jackson Manion Mines Limited,
Bank of Hamilton Building,
Toronto, Ontario.

Dear Sirs:

I beg to advise that your recent shipment, representing the quartz opened up on the 375 foot level of the Jackson Manion Mine was carefully sampled and assayed giving the following assay value:

Gold -- 0.02 oz. per ton.

Yours very truly,

WBT/LCH

W.B. Timm,
Chief of Division.

JACKSON-MANION MINES LIMITED

(NO PERSONAL LIABILITY)

BANK OF HAMILTON BUILDING

TORONTO 2

CANADA

July 20th 1929.

Mr. W. B. Timm,
Department of Ore Dressing,
Booth St. OTTAWA, Ont.,

Dear Sir:-

We have received advice from Mr. Thomson that he has forwarded to you per express 250-lbs. ore, to represent the quartz opened up on the 375-ft. Level at the Jackson-Manion, and note that he has asked for test similar to that which you previously ran for us.

At the moment, the writer does not think that an exhaustive test such as previously made is necessary. If you will kindly properly sample the shipment and have it assayed, and then let us know the results, this should be sufficient for our immediate purposes.

Thanking you,

Yours very truly,

JACKSON MANION MINES, Limited,

H. E. Harcourt
HARCOURT

Managing Director,

HEH-D.

JACKSON-MANION MINES, LIMITED

D. M. THOMSON
MINE SUPERINTENDENT

TELEGRAMS
VIA SIOUX LOOKOUT

JACKSON MANION P.O.

WOMAN LAKE, ONT.

13th July

1929

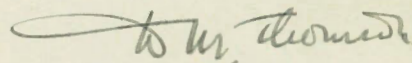
Mr W.B.Timm,
Booth Street Laboratories,
Ottawa. Ont.

Dear Sir,

We are sending out expressed to you 250 lbs of
ore from our newly opened bottom level, for a similar
test as you ran previously for us.

Thanking you,

Yours faithfully,



Superintendent.

DMT/DAE

Doc. 319

107B

May 2nd, 1929.

From: Chief, Division of Ore Dressing & Metallurgy.

To: Director, Mines Branch.

Re: Gold Ore From Jackson-Manion Mine, Woman Lake, Ont.

I beg to submit herewith, the report of the Ore Dressing and Metallurgical Laboratories on a shipment of Gold Ore from the Jackson-Manion Mine, Woman Lake, Ontario. Copies of this report should be submitted to the following:

Jackson - Manion Mines, Limited,
Bank of Hamilton Building,
Toronto, Ontario.

Thos, W. Gibson,
Deputy Minister of Mines,
Department of Mines,
Toronto, Ontario.

Respectfully submitted.

W.B. Timm,
Chief of Division.

CANADIAN NATIONAL TELEGRAPHS

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CANADIAN NATIONAL TELEGRAPH COMPANY

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No employee of the Company shall vary the foregoing.

HEAD OFFICE, TORONTO, ONT.

GEO. D. PERRY, VICE-PRES'T AND GENERAL MANAGER

	COUNTER No.	TIME FILED	CHECK
Send the following message, subject to the above Terms which are hereby agreed to.			

COPY

Ottawa, April 12th, 1929.

Jackson Manion Mines, Ltd.,
Bank of Hamilton Building,
Toronto 2, Ontario.

ASSAY OF SECOND SHIPMENT POINT SEVEN SEVEN OUNCES
GOLD PER TON. LETTER IN MAIL.

W.B. Timm,
Department of Mines,
Ottawa, Ontario.

CLASS OF SERVICE | SYMBOL

C.N.T. 6296
12-25

PRINTED IN CANADA

ORIGINAL OF MESSAGE

Telephoned

TO BE

interurb check.

HEAD OFFICE, TORONTO, ONT.

INTERNATIONAL TELEGRAPH AND CABLE CORPORATION CANADIAN NATIONAL TELEGRAM

W. G. BARBER, General Manager

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Money Transferred
by Telegraph

RA141 11 DUPLICATE

STANDARD TIME.

TORONTO ONT APR 11 456P

1920 APR 12 AM 10 31

W B TIMM

098

DEPT MINES OTTAWA ONT

HAVE YOU ASSAY RESULT OF SECOND SHIPMENT OF ORE PLEASE ADVISE
JACKSON MANION MINES.

E.N.T. 6296

12-25

PRINTED IN CANADA

ORIGINAL OF MESSAGE

FORM 6124

Telephoned

TO BE

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

CANADIAN NATIONAL TELEGRAM



HEAD OFFICE, TORONTO, ONT.

W. G. BARBER, General Manager

Exclusive Connection with WESTERN UNION TELEGRAPH CO. Cable Service to all the World Money Transferred by Telegraph

RA407 11

STANDARD TIME

TORONTO ONT 11 436P

W B TIMM

DEPT MINES OTTAWA ONT

HAVE YOU ASSAY RESULT ~~IF RECEIVED~~ SHIPMENT OF ORE PLEASE ADVISE
of second
JACKSON MANION MINES.

*Jackson Manion Mines Co.
Bank of Hamilton Bldg, Toronto Ont
Assay of second shipment - found seven seven ounces gold per ton. Letter in mail.*

W.B. Timm

Ottawa, April 11th, 1929.

Jackson Manion Mines, Ltd.,
Bank of Hamilton Building,
Toronto 2, Ontario.

Dear Sirs:

I beg to advise the assay results on your two shipments of ore as follows:

Shipment No. 1 - 8 bags, 481 lbs. gross - Assay 14.70
ozs. gold per ton.

Shipment No. 2 - 15 bags, 976 lbs. gross- Assay 0.77
ozs gold per ton.

If we were to mix these shipments together as you suggest we would get a composite sample assaying approximately 5.37 ozs. gold per ton. This would hardly be representative of your milling ore.

In my letter of the 6th inst. I asked you to advise on what you considered an average grade for your milling ore so that we could add a definite quantity of No. 1 shipment to No. 2. to make up a composite lot that would approximate your milling ore, on which to do the test work. You would not wish us to do the test work on ore assaying 5.37 ozs. per ton as the results would be useless if the average grade of the ore was around one ounce.

We will be glad to proceed with the test work as soon as you advise us of a reasonable grade to work on. It

(2)

is our desire to give you results which will be of some use to you.

I will be glad to hear from you in this connection as soon as possible.

Yours very truly,

W.B. Timm,
Chief of Division.

WBT/LCH

MINES BRANCH, DEPARTMENT OF MINES

MEMORANDUM TO Accountant.....

OTTAWA, April 8th,..... 19 29

Department of Mines.....

Jackson Manion Mines, Limited,
Bank of Hamilton Building,
Toronto 2, Ontario.

Freight on 15 bags ore 1020 @ 1.19 $\frac{1}{2}$	\$ 12.19
Payable by shipper 1020 @ .75	<u>7.65</u>

Shipper to be billed for \$7.65

Certified correct... W. B. Irvine.....
Chief, Division of Ore
Dressing & Metallurgy.

Charge Vote 250

JACKSON-MANION MINES LIMITED

(NO PERSONAL LIABILITY)

BANK OF HAMILTON BUILDING

TORONTO 2

CANADA

On April 6, 1929.

Mr. W. B. Timm,
Department of Mines,
Ottawa, Canada.

Dear Sir:

We have today received your telegram of the 6th. inst., and note that you say the first shipment was too high-grade to test, and that you will commence work on the second shipment when you have assay results.

We have wired you today as follows:

"Please advise assay value of first shipment."

We understand from your telegram that you propose to test the second shipment only. If this is correct, will you please hold the first shipment for further directions from us.

It may be that you intend to combine the two shipments, but this is not clear to us from your telegram, and as the total amount of Ore shipped to you came from various parts of the Mine, we would like very much to have the combined result of the two shipments, and will be glad to hear from you in this connection.

Awaiting word from you at your earliest convenience, we are

Yours very truly,

JACKSON MANION MINES LIMITED.

HEH:GW.

W. E. Hancock

JACKSON-MANION MINING COMPANY
DEPARTMENT OF MINING
TORONTO 2
ONTARIO

Jackson-Manion

Shipment No 1.

8 bags wt - 481 ^{lbs}

Assay - 14.70 oz/ton.

Shipment No 2.

15 bags wt - 976 ^{lbs}

Assay - 0.77 oz/ton



Printed in Canada.
CANADIAN PACIFIC R.Y. CO.'S TELEGRAPH
FORM T.D. 1
TELEGRAM

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J. McMILLAN, General Manager of Telegraphs, Montreal.

RNA9 7

STANDARD TIME

1929 APR 6 PM 12 48

TORONTO ONT 6 1237P

W B TIMM

0202

DEPT OF MINES OTTAWA ONT

PLEASE ADVISE ASSAY VALUE OF FIRST SHIPMENT

JACKSON MANION MINES

R

Ottawa, April 6th, 1929.

Jackson Manion Mines Limited,
Bank of Hamilton Building,
Toronto, 2, Ontario.

Dear Sirs:

Replying to your telegram of yesterday, I beg to advise that your first shipment assayed 14.70 ozs/ton gold. No test work will be done on this shipment as it is far too high grade and not representative.

Your second shipment has been sampled and we are waiting on the assay results to commence the test work. The assay results will be out the first of the coming week.

We are anxious to do the test work on a sample that would represent the average of your ore and your suggestion of mixing the two shipments would give us ore away above the average.

I would be glad to have you advise me of what you consider a fair average, so that if your second shipment assayed below the average we could add the proper proportion of No. 1 shipment to give this average. Will you advise me of this?

We do not wish to do a lot of useless work which will not give you reliable information on your ore treatment problems.

Yours very truly,

W.B. Timm,
Chief of Division.

WBT/LCH

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HEAD OFFICE, TORONTO, ONT.

GEO. D. PERRY, VICE-PRES'T AND GENERAL MANAGER

Send the following message, subject to the above Terms which are hereby agreed to.	COUNTER No.	TIME FILED	CHECK

C - O - P - Y

Ottawa, April 6th, 1929.

Jackson Manion Mines Ltd.,
Bank of Hamilton Building,
Toronto, Ontario.

TEST WORK WILL COMMENCE NEXT WEEK WHEN WE WILL HAVE
THE ASSAY RESULTS OF YOUR SECOND SHIPMENT. STOP FIRST
SHIPMENT TOO HIGH GRADE.

W.B. Timm,
Départment of Mines.

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	D L
Night Message	N M
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

CANADIAN NATIONAL TELEGRAM



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STANDARD TIME

1929 APR 5 PM 4 01

RA373 10

TORONTO ONT 5 346P

W B TIMM

439

ORE DRESSING DEPT OTTAWA ONT

PLEASE ADVISE WHEN WE MAY EXPECT RESULTS FROM TEST SHIPMENTS

JACKSON MANION MINES LTD.

March 1st, 1929.

Jackson - Manion Mines,
Bank of Hamilton Building,
Toronto 2.
Ontario.

ATTENTION! Mr. H.E. Harcourt.

Dear Sir:

I beg to advise that your first shipment of eight bags of ore arrived at our laboratories this morning. As soon as the second shipment of fifteen bags arrives we will mix both shipments and proceed with the test work.

I may say that there are no changes in connection with the test work. If the transportation charges are not paid we will submit invoices covering these when we receive the bills from the Railway Company.

Yours very truly,

WBT/LCH

W.B. Timm,
Chief of Division.

JACKSON-MANION MINES LIMITED

(NO PERSONAL LIABILITY)

BANK OF HAMILTON BUILDING

TORONTO 2

CANADA

On February
25,
1929.

Mr. W. B. Timm,
Ore Dressing Dept.,
Dept. of Mines,
Ottawa, Ontario.

Dear Sir:

We wired you today as follows:

"Have shipped an additional consignment of Ore to you. Combine this with first shipment and run both lots as one stop Would appreciate report on test at earliest convenience."

We have previously shipped to you one lot, approximately four to 500 lbs. of Ore from the Jackson Manion Mine. We have today received advice from the Mine that a further lot has been shipped - the two lots combined will be about 1000 lbs.

We would ask you to treat these two lots as one and make a test on same, and let us know the recovery as well as the assay value of the Ore. We would appreciate this at an early a date as possible, and upon receipt of your account, we will remit by return post.

Would you kindly advise us promptly when you would have this test completed.

Yours very truly,

JACKSON MANION MINES LIMITED.

HEH:GW.

Per

H. E. Hancock

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	D L
Night Message	N M
Night Letter	N L

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STANDARD TIME.

RA234 29 DL

TORONTO ONT 25 130P

W G TIMM

ORE DRESSING DEPT DEPT MINES OTTAWA ONT

HAVE SHIPPED AN ADDITIONAL CONSIGNMENT OF ORE TO YOU COMBINE THIS WITH
FIRST SHIPMENT AND RUN BOTH LOTS AS ONE STOP WOULD APPRECIATE
REPORT ON TEST AT EARLIEST CONVENIENCE

JACKSON MANION MINES.

1929 FEB 25 PM 1 52

*Copy to C. S. Parsons
at Montreal.*

Ottawa, February 8, 1929

Jackson Mining Company Ltd.
Bank of Hamilton Building
Toronto

Dear Sirs:

I beg to advise that we will be pleased to receive a one half ton shipment of ore for test purposes.

Please see that this shipment is as representative a sample of your ore as it is possible to obtain in order that our results will be of value to you.

The ore should come bagged, addressed to the Ore Testing Laboratories, 552 Booth St. Ottawa. This is in confirmation of my telegram of yesterday's date.

Yours very truly,

W. B. Timm,
Chief, Division of Ore
Dressing and Metallurgy

CANADIAN NATIONAL TELEGRAPHS

GREAT NORTH WESTERN TELEGRAPH COMPANY

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It is agreed between the sender of the message on the face of this form and this Company, that said Company shall not be liable for damages arising from failure to transmit or deliver, or for any error in the transmission or delivery of any unrepeatable telegram, whether happening from negligence of its servants or otherwise, or for delays from interruptions in the working of its lines, for errors in cypher or obscure messages, or for errors from illegible writing, beyond the amount received for sending the same.

To guard against errors, the Company will repeat back any telegram for an extra payment of one-half the regular rate; and, in that case, the Company shall be liable for damages suffered by the sender to an extent not exceeding \$200.00, due to the negligence of the Company in the transmission or delivery of the telegram.

Correctness in the transmission and delivery of messages can be insured by contract in writing, stating agreed amount of risk, and payment of premium thereon at the following rates, in addition to the usual charge for repeated messages, viz: one per cent. for any distance not exceeding one thousand miles, and two per cent. for any greater distance.

This Company shall not be liable for the actor omission of any other Company, but will endeavor to forward the telegram by any other Telegraph Company necessary to reaching its destination, but only as the agent of the sender and without liability therefor.

The Company shall not be responsible for messages until the same are presented and accepted at one of its transmitting offices; if a message is sent to such office by one of the Company's messengers, he acts for that purpose as the sender's agent; if by telephone, the person receiving the message acts therein as agent of the sender, being authorized to assent to these conditions for the sender. This Company shall not be liable in any case for damages, unless the same be claimed, in writing, within sixty days after receipt of the telegram for transmission.

No employee of the Company shall vary the foregoing.

HEAD OFFICE, TORONTO, ONT.

GEO. D. PERRY, VICE-PRES'T AND GENERAL MANAGER

	COUNTER NO.	TIME FILED	CHECK
Send the following message, subject to the above Terms which are hereby agreed to.			

Ottawa, February 7, 1929

Charge Mines Branch
(Q6300 L174)

JACKSON MANION MINES
TORONTO

ONE HALF TON SHIPMENT OF ORE FOR TEST PURPOSES SHOULD BE
ADDRESSED ORE TESTING LABORATORIES BOOTH STREET OTTAWA

W. B. TIMM

CLASS OF SERVICE	SYMBOL
Day Message	
Day Letter	D L
Night Message	N M
Night Letter	N L

If none of these three symbols appears after the check (number of words) this is a day message. Otherwise its character is indicated by the symbol appearing after the check.

CANADIAN NATIONAL TELEGRAM



HEAD OFFICE, TORONTO, ONT.

W. G. BARBER, General Manager

Exclusive Connection
with
WESTERN UNION
TELEGRAPH CO.
Cable Service
to all the World
Money Transferred
by Telegraph

RB20 16

STANDARD TIME.

1929 FEB 7 AM 11 57

RB TORONTO ONT 7 1145A

174

W B TIMM

DEPT ORE DRESSING DEPT MINES OTTAWA ONT

ADVISE BY WIRE ADDRESS WHERE WE MAY SHIP ONE HALF TON

ORE FOR TEST AND RECOVERY

JACKSON MANION MINES.

Copy for information of Mr. Timm.

Ottawa, December 12, 1927.

H. E. Harcourt, Esq.,
Managing Director,
Jackson-Manion Mines, Ltd.,
Bank of Hamilton Building,
Toronto, Ont.

Dear Sir,

I have your letter of December 5th. advising of your desire to have several tons of Jackson-Manion ore tested in order to ascertain the best metallurgical practice to follow in treating this ore.

I am attaching herewith a pamphlet indicating the conditions under which tests are made in our Ore Dressing Laboratories, and beg to say that we shall be agreeable to having a test made upon your ores as soon as may be convenient after their receipt.

We understand that the Jackson-Manion ore is free-milling gold ore, and would suggest that for preliminary experimental work 400 or 500 pounds would be quite sufficient for primary test purposes. If you will send this material, charges prepaid, addressed to our Ore Dressing Laboratories, Booth St., Ottawa, advising us at the same time when shipment is made, we shall be pleased to put the test in hand as soon as the work already under way in our laboratories will permit.

Yours very truly,

(Signed) John McLeish.

Director, Mines Branch.

Copy.

JACKSON-MANION MINES LIMITED.

Bank of Hamilton Building.

Toronto, December 5, 1927.

Department of Mines,
Ottawa, Ontario.

Dear Sirs,

We desire to have several tons of Jackson-Manion ore tested in order to ascertain the best metallurgical practice to follow in treating this ore.

Will you please advise us whether you are in a position to do this or not, and also what the cost would be?

An early reply will be appreciated.

Yours very truly,

(Signed) H. E. Harcourt.

Managing Director.

552 Booth Street,
Ottawa, Aug. 13, 1930.

Wm. Douglas, Esq.,
President,
Northern Ontario China Clay Corp.,
Northern Ontario Building,
Toronto, Canada.

Dear Sir:-

In reply to your letter of August 8th we are sending you a report on Investigations in Ore Dressing and Metallurgy for 1928, and in this report, pages 103 to 110, you will find a complete summary of the large scale tests made on the china clay from St. Remi, Quebec.

We are also sending you a small pamphlet describing our Laboratories and giving the conditions under which the tests are carried out on ores and non-metallic minerals.

I would suggest that you take advantage of the opportunity of sending some of your clay for test work. Of course you would have to arrange with our Director to do so.

In the event you ship some of your clay, for test work, we no doubt will find out the proper method to use to separate the china clay from the sand.

Yours very truly,

RKC:LW

R.K. Carnochan,
Mining Engineer.

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NORTHERN ONTARIO CHINA CLAY CORPORATION, LIMITED

NORTHERN ONTARIO BUILDING

WM DOUGLAS, K.C., PRESIDENT
HON. JAMES LYONS, VICE-PRES.
EARL DOUGLAS, SECY-TREAS.

TORONTO, CANADA.

August 8th, 1930.

The Department of Mines,
OTTAWA,
Ontario.

Dear Sir:

ATTENTION OF MR. R.R. CARNOCAN

In the issue of August 8th Canadian Mining Journal, page 768, a matter of considerable interest to the Writer is set forth. There it states that you have been treating china clay in the crude to produce a high grade of china and a residue of quartz. The conclusions are five in number as set forth there, and I am very much interested in your method of separating the sand from the crude clay and recovering the china clay as a fine white product.

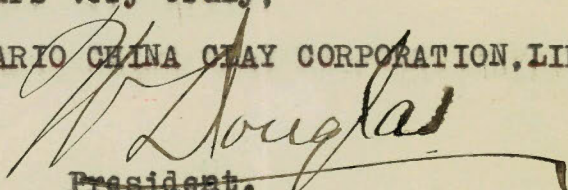
We have in Ontario a large deposit of china clay and sand - 99.95 pure.

Would you be good enough to give me some information about these tests and also about the method used by you in separating the sand from the china clay. We are about to start a plant on our own property and would be pleased to get any information as to this as set forth in the Canadian Mining Journal.

Any fee in connection with it the Writer will remit.

Yours very truly,

NORTHERN ONTARIO CHINA CLAY CORPORATION, LIMITED,


President.

WD/E.

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Ottawa, July 27, 1928

From: Chief, Division of Ore
Dressing and Metallurgy

To: Director, Mines Branch

I beg to submit herewith the Report
of the Ore Dressing and Metallurgical
Laboratories on the preparation of oyster
shells for poultry purposes.

The shipment of one barrel was made
by Mr. Wm. Mombourquette, Orangedale, C.B.
to whom a copy of the report should be sent.
Arrangements for this shipment were made by
Mr. L. H. Cole while in C.B. last fall.

Respectfully submitted,

W. B. Timm,
Chief of Division

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Ottawa, July 27, 1928

Wm. Mombourquette, Esq.,
Orangedale,
C.B.

Dear Sir:

I am submitting, through the Director's office, the report of the Ore Dressing and Metallurgical Laboratories on the preparation of your oyster shell for poultry.

The shells will have to be dried on a pan drier or in a small revolving drier before crushing. You should be able to have one built suitable for the purpose at any boiler or sheet metal works. For crushing the dried shells you will require a small hammer mill. One with a feed opening of $12\frac{3}{4}$ " x 11" would have a capacity of one ton per hour. This can be obtained from the Sturtevant Mill Co. of Boston, Mass. at an approximate cost of \$840 fob Boston. A screen will be required for making the two sizes - a Rotex No. 8 screen fitted with 10 and 20 mesh screen cloths could be obtained from the Orville Simpson Co of Cincinnati, Ohio for approximately \$380, the cloths costing \$8 extra, fob Cincinnati. This screen would have a capacity of one ton per hour.

Yours very truly,

W. B. Timm,
Chief, Division of Ore
Dressing and Metallurgy

Report of Ore Dressing and Metallurgical Laboratories.

Report No. 309

The Preparation of a fine grained limestone from L'Etang, N.B.R. H. Carnochan fine grained limestone

Shipments. Two shipments of calcite were sent in by Mr. J. Sutton Clark, Saint George N.B. owner and operator of the Canadian Calcite Mines, L'Etang N.B. from whence the shipments originated. The first shipment was received Nov. 22nd, 1927 shipping weight 500 pounds, the second arrived March 26th, 1928 shipping weight 870 pounds.

Purpose of Experimental Tests. The purpose of the tests was to determine to what fineness the limestone ~~calcite~~ could be ground dry and wet, and to find what kind of products would be produced. It was also desired to obtain some samples of the finished products to submit to prospective consumers.

Characteristics of the limestone. The limestone ~~calcite~~ in the large pieces in which it was received is greyish white in color with a very small amount of rust stains in the fractures. It is not crystalline but fine-grained and massive. When ground fine in an agate mortar it is pure white in color.

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Sampling and Analysis. The first lot received which was called lot no. 1, was crushed in a large gyratory crusher to about 2".

The discharge from the gyratory was crushed in a small hammer mill to about 4 mesh. A head sample was put out by means of a Jones riffle. This head sample when ground and analyzed gave insoluble 2.35%.

Experimental Tests.

Dry Grinding A part of lot no. 1, 160 pounds was ground in a 2'x3' cylindrical mill lined with porcelain and carrying 120 pounds of pebbles. The mill discharge was fed back to the mill, and grinding was continued for 20 hours at which time 69% of the ^{limestone} ~~sample~~ was - 325 mesh. The mill was cleaned out and the ground ^{limestone} ~~sample~~ fed to a 30" Gayco air separator at the rate of 250 pounds per hour. The oversize from the Gayco was fed back as long as any fines were obtained from it, six times in all. The products from this test were, -

Gayco fines	66 lbs.
Gayco oversize	74 lbs.
Gayco cleanup	9 lbs.

The fines are 99.85% - 325 mesh and are pure white in color.

Wet Grinding. The remainder of lot no 1 and all of lot no 2, which had been crushed in the gyratory and hammer mill, were used up in wet grinding tests. The 2'x3' mill was used in all the tests for grinding. At first for classifying a 3' Down-bowl classifier was used but it was found of too large a capacity to work properly with the 2'x3' mill. A launder classifier 8" wide was then tried out but the oversize had to be shoveled out and returned to the mill by hand. A 15" Down simplex classifier was then tried.

At the test with the simplex classifier 330 pounds of pebbles were used in the mill the feed rate was 40 lbs of calcite per hour. The mill discharge was about 21% solids and the classifier overflow about 1 of solids to 250 of water, this large amount of water had to be used as the 15" classifier is much too large for the 2'x3' mill and to get a current fast enough to lift calcite - 300 mesh a certain quantity of water had to be used. The mill was run 39 hours during which time, due to the limited amount of calcite left for the test and to the classifier not raking out its oversize, it was necessary to stop twice and clean the classifier by hand to get feed for the mill. The classifier did not clean itself out properly because the rake could not be lowered nearer than $\frac{1}{2}$ " to the bottom because at this height it struck the rivets used in making the joints in the bottom of the classifier tank.

During the run the classifier overflow was thickened in a large Dorr thickener the clear water from the thickener being used over again. After the run the contents of the thickener were filtered in a large press, the press cake was then dried and broken up by running it a short time in the 2'x3' kettle mill.

The products from this test were -
 Fine wet ground limestone 139 lbs.
 Cleanup of classifier 462 lbs.

The fines are 99.95% - 325-mesh and are a very slight amount off color, this being due to the small amount of material used and the number of times it was handled in removing it from the classifier. Large lots of calcite have been ground wet using the same process without having any discolorization. The classifier cleanup contains a high percentage of - 325 which would have been in the overflow had the classifier been working correctly.

Conclusions. ^{limestone} ~~The limestone submitted is an~~ ~~excellent one for use in fine grinding.~~
 It can be ground either dry or wet. Wet grinding would give a slightly finer and more uniform product. The color of the ground product in both methods of grinding would be pure white.

→ The limestone submitted is of very good grade and adaptable to fine grinding for the production of commercial product.