

University of Wisconsin-Extension  
GEOLOGICAL AND NATURAL HISTORY SURVEY  
3817 Mineral Point Road  
Madison, Wisconsin 53705

M.E. Ostrom, State Geologist and Director

FINAL REPORT, EXPLORATION CONTRACT I-dm-E 171,  
dated October 3, 1951

by

F.F. Bowman

Open-File Report 52-1  
3 p.

This report represents work performed by the Geological and Natural History Survey, and is released to the open files in the interest of making the information more readily available. This report has not been edited or reviewed for conformity with Geological and Natural History Survey standards and nomenclature.

FINAL REPORT

NE 1/4 SW 1/4 Sec 24

Exploration Contract I-dm-E 171

Dated October 3, 1951

Project location: Exploration for asbestos was carried on in the North one-half of the Southeast one-quarter of Section 24, Township 36 North, Range 21 East, Marinette County, Wisconsin. More specifically the location is on County Trunk Highway Z, eleven miles east of Pembine, Wisconsin and twelve miles west of Carney, Michigan. Pembine is served by the Chicago, Milwaukee and St. Paul Railroad; Carney is served by the Chicago and North Western Railroad.

Geology: The original outcrop consists of an asbestos bearing, serpentinized, peridotite, exposed in a flat, loess covered, alluvium bend, north of the Menominee River. The peridotite belt runs in a northwest-southeast direction and is underlain by a northward dipping basic front of granite. The granite is exposed a mile or more to the south, but the whole area is well glaciated and much of the basic geology must be interpreted from such outcrops as are exposed in the surrounding surface of glacial debris.

Work performed: Starting in October of 1951 some 6,200 cubic yards of glacial over-burden were stripped from around the outcrop of asbestos bearing peridotite. A pit approximately 200 feet by 300 feet in size was developed some 15 feet deep at the center. This exposed the worn, glaciated surface of the peridotite and made possible some study of the number and size of the chrysotile veins. (See map attached). While areas of vein concentration were uncovered, it appears that not over one percent of the rock mass as a whole is asbestos. The veins vary in size from microscopic to three-fourths of an inch in width with the

wide veins tending to be widely separated. In length the veins extend up to twenty feet. In February of 1952 a magnetometer study was conducted to delineate the probable areal extent of the peridotite plug. This survey indicates an areal extent of some 150 feet by 300 feet.

Ore analysis: Hand cobbled samples of the ore gave the following laboratory analysis:

|                |             |
|----------------|-------------|
| Number 2 Crude | 2.8%        |
| 6 D Fibre      | 3.3         |
| 5 D Fibre      | 5.0         |
| Gauge          | <u>88.9</u> |
|                | 100.0%      |

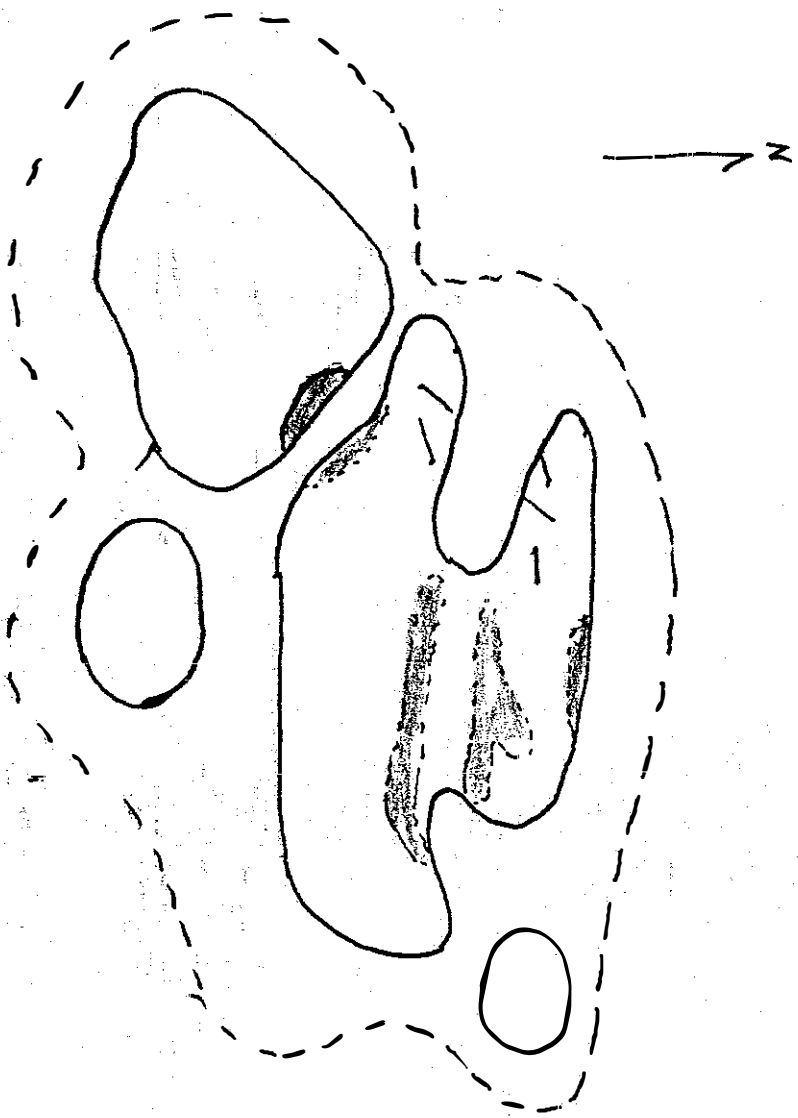
Based on prices quoted as of the date of this report such asbestos, extracted, F.O.B., Quebec is worth \$245.00 a ton.

Estimated ore: No drilling was conducted and the depth of the peridotite plug is, therefore, unknown. But even assuming a depth of 300 feet and a possible 1,000,000 tons of rock and asbestos, a concentration of only one percent chrysotile makes the deposit unworkable at present costs. The ore is far from sufficient to warrant the cost of extraction by present methods at the site and it is too far distant from the Arizona and Vermont extraction plants to warrant shipment. Without drilling for depth no estimate of the ore available can be made.

F. F. Bowman, Jr., Geologist  
Star Mining Company  
December 17, 1952

Harriman Property

G.H. from R.C. Emmons  
Nov 1951



Bed rock  
Vein  
Area of veins

General  
Area  
of  
Pillings

copy abbr  
next

July  
Asbestos  
Memo: Davis T.  
Conrad, Quebec

March 11, 1954

Mr. T. Davies  
Chief Geologist  
Flintkote Mines Limited  
Thetford Mines  
Canada

Dear Mr. Davies:

I am in receipt of your letter of March 8 requesting information on possible asbestos bodies in this State.

Much of the Pre-Cambrian in this state, as in most localities, is undifferentiated; a great deal of work remains to be done which is unfortunately beyond the present scope of this Survey.

Peridotite bodies are known to occur in the northwestern portion of the state in northern Marinette and southern Florence counties. Outcrops are very scarce but the bodies could be delineated by a magnetometer survey. Recent exploration of one plug showed asbestos to be present but not in sufficient quantity to justify extraction; however, there is no reason to believe that workable deposits do not exist and that they could not be located by modern methods of exploration.

I am enclosing a report on the prospect referred to above and should you decide to investigate the area, I hope that your geologist will be able to visit me in Madison. Prof. R. C. Emmons of the Geology Department of this University has done quite a lot of work in the area and a talk with him would be most rewarding.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY

State Geologist

GPH:ao  
Enc.

# FLINTKOTE MINES LIMITED

SUBSIDIARY OF THE FLINTKOTE COMPANY

ASBESTOS FIBRE



MINING AND MILLING

THETFORD MINES, P. Q.

March 8, 1954

Geological Survey of Wisconsin  
State Capitol  
Madison, Wis.

Dear Sirs:

Flintkote Mines Limited is an established producer of asbestos fibre from its own ore-body here in the well known Thetford Mines - Black Lake area of Southern Quebec.

We maintain an active exploration department which is constantly searching for new reserves of ore.

In this respect, I should like to know if your survey knows of any occurrences of asbestos or serpentine masses in the State. I suspect that this may be so since Northern Ontario contains a 100 mile long serpentine belt (containing 3 known asbestos ore-bodies) whose strike of slightly south of west would carry it under Lake Superior into your State.

Any pertinent maps, reports, etc., would be appreciated.

Yours very truly

FLINTKOTE MINES LIMITED



I. Davies  
Chief Geologist

TD/m

selects  
from: the mining Co.

# STAR MINING CO.

303 Power & Light Building

Madison 3, Wisconsin

TELEPHONE 6-3164

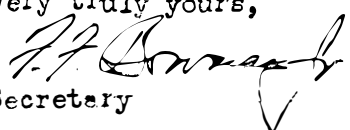
March 22, 1954

Mr. George Hansen, State Geologist  
University of Wisconsin,  
Madison, Wisconsin

Dear George,

The so-called Herriman asbestos property is owned by Mr. Luther A. Herriman of Pembine, Wisconsin. It is subject to an option to purchase by the Star Mining Company. In the event Star Mining Company exercises such option Star Mining Company agrees to discharge the lien of the Defense Minerals Administration in the amount of some \$3,200 for work performed in exploring the property and a lien of the County of Marinette for old age assistance to Mr. Herriman in the amount of some \$4,000.

Very truly yours,

  
Secretary

*stop*  
*Mr. H. K. Cann*  
*Montreal, Quebec*  
*Johns Marville Co., Ltd.*

June 22, 1954

Mr. H. K. Cann  
Chief Geologist  
Johns Marville Co., Limited  
970 Sun Life Bldg.  
Montreal, Quebec

Dear Mr. Cann:

Thank you for your letter of June 15 and the check for \$9.50 which was enclosed. Bulletins 16, 44, 46 and 71 are being forwarded under separate cover.

I am afraid that I have no information on the owner of the Milladore property. This was only mined from 1929 to 1930 and my knowledge is based upon reports in the Survey files. No specimens can be located. We do not have a list of the bulletins or reports of the U.S. Geological Survey, however, I believe that your best source of information will be the bibliography of North American Geology. No airborne magnetometer survey has been made in the northern part of this state.

I would be very happy to have one of your geologists or yourself use the files in the Survey office.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY

State Geologist

GFH:ac



# CANADIAN Johns-Manville CO., LIMITED

ASBESTOS FIBRE DIVISION



TEL UNIVERSIITY 6-9701

970 SUN LIFE BLDG. • MONTRÉAL, QUE

June 15, 1954

The Geological and Natural History Survey  
The University of Wisconsin  
Science Hall  
Madison 6, Wisconsin.

Attention: Mr. G. F. Hanson,  
State Geologist.

Dear Mr. Hanson:

I wish to acknowledge and thank you for your letter of June 8th containing detailed answers to my queries regarding the occurrence of ultrabasic rocks in Wisconsin.

I wish to order copies of Bulletins Nos. 16, 44, 46, and 71. Enclosed is a cheque for the sum of \$9.50 U.S. in pre-payment.

I note that according to your information, some short fibre asbestos is associated with a talc deposit near Milladore, northwest of Stevens Point. I would appreciate learning the owner of this ground, in order that I may write to him for typical samples, if such information is available in your files.

I am looking forward to receiving the map and report on the area geologised by Lyons and Emmons in 1943-44.

I understand that there is a considerable amount of unpublished information available at your office, and trust that I or one of our Geologists may have the opportunity of examining this material at a future date.

Do you have available a list of the Bulletins or Reports by the U.S.G.S. on areas in northern Wisconsin? We would be particularly interested in learning whether or not airborne magnetometer surveys were carried out in this section of the State.

With many thanks for your information, I remain,

Yours very truly,

H. K. Conn,  
Chief Geologist.

June 8, 1954

Mr. H. K. Conn  
Johns-Manville Co., Ltd.  
970 Sun Life Building  
Montreal, Quebec

Dear Mr. Conn:

I am in receipt of your letter of June 3 regarding the occurrence of ultra-basic rocks in this state. Very little published information is available however there is a lot of miscellaneous information in unpublished township reports, field notes, etc. which are in our files. I would be happy to let you or any of your geologists examine these in Madison.

Magnetic (dip needle) surveys of lands potentially underlain by iron formation are published in Bulletins 44 and 46 of the Wisconsin Geological Survey on mineral land classification of E. Wisconsin. These are available from this office for \$5.00 and \$1.00 respectively. Other unpublished township reports in N. Wisconsin contain magnetic maps and specimen descriptions. Geologic and magnetic maps of the Wisconsin portion of the Gogebic were published in Bulletin 71 of the Wisconsin Geological Survey (\$1.50).

The Pre-Cambrian of Central Wisconsin is described by Waideman in Wisconsin Geological Survey Bulletin 16 (1907), \$2.00. This mentions an occurrence of tracholite, essentially anorthite and olivine, near Merrill.

Some short fiber asbestos is reported associated with a talc deposit near Milladore, just N.W. of Stevens Point. This deposit occurs in flat farm land with very sparse outcrops and little is known about the detailed geology.

A map which I have just received from E.J. Lyons on work which he did with R.C. Emmons in 1943-44 shows an extensive belt of plagioclase hornblende west of Niagara. I am forwarding a rough copy of this map to show the general location. As yet I do not have a report on this.

I understand you visited the Harriman asbestos prospect and so are quite familiar with that; I believe however that the area deserves further exploration.

Granite is quite abundant in the portion of the Gogebic west of Mellen according to Dr. S. A. Tyler. I do not however know of published references to this fact.

Information on Michigan geology may be obtained from Mr. William A. Daoust, State Geologist, Dept. of Conservation, Lansing, Michigan.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY

# CANADIAN Johns-Manville CO. LIMITED

ASBESTOS FIBRE DIVISION



TEL. UNIVERSITIY 6-9701

970 SUN LIFE BLDG " MONIREAL QUE

June 3, 1954.

Wisconsin Geological & Natural History Survey  
Madison, Wisconsin  
U. S. A.

Attention: Mr. E. F. Bean, Director.

Dear Sir:

Our Company is interested in obtaining from your Department general and specific information on the occurrences of ultrabasic rocks in Wisconsin, which you may have available.

I have in hand the Geologic Map of Wisconsin Revised 1949 by E. F. Bean, and would presume that ultrabasic rocks occur only in the Precambrian areas in the northern half of the State.

The following data, together with such other information as you may have, would be appreciated:

- a copy of the State Mining Regulations.
- a list of the geological maps and reports covering the Precambrian areas available from your office or the U.S.G.S.
- information regarding magnetic surveys (air or ground) available
- detailed reports on prospects or deposits of asbestos.
- a copy of any State reports mentioning ultrabasic rocks (peridotite, dunite, pyroxenite, etc.)
- Any knowledge you may have of the existence of such minerals as ribeckite, crocidolite, grunerite and amosite within the Huronian Iron Formation or elsewhere.

CANADIAN **Johns-Manville** CO. LIMITED

ASBESTOS FIBRE DIVISION



TEL UNIVERSITY 6-9701

970 SUN LIFE BLDG • MONTREAL, QUE

June 3, 1954.

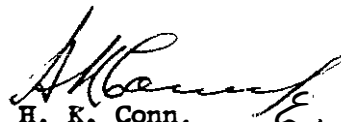
Page 2.

Please invoice as necessary.

You may have knowledge of my examination of a chrysotile asbestos prospect near the Menominee River, Marinette County, in 1951.

I would appreciate learning the name and address of the Michigan State Department for Geology, etc. if convenient.

Yours very truly,

  
H. K. Conn,  
Chief Geologist.

~~act~~  
~~assess~~  
Flintkote Mines Ltd.

April 9, 1954

Mr. T. Davies  
Chief Geologist  
Flintkote Mines Limited  
Thetford Mines, P.Q.

Dear Mr. Davies:

Thank you for your letter of April 5 and the return of the Magnetometer Survey of the Harriman Property. I have contacted Mr. Carl Zualke of the Wisconsin Press Association who says that he will forward to you directly a list of newspapers in the state.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY

State Geologist

GFH:ac

# FLINTKOTE MINES LIMITED

SUBSIDIARY OF THE FLINTKOTE COMPANY

ASBESTOS FIBRE



MINING AND MILLING

THETFORD MINES, P. Q.

April 5, 1954

Mr. G.F. Hanson  
State Geologist  
Geological & Natural History Survey  
The University of Wisconsin  
Madison, Wis.

Dear Mr. Hanson:

I have now had the opportunity of abstracting pertinent information from the geophysical report and of examining the samples you sent. Many thanks for your consideration. I am enclosing the report with this letter.

An ideal method for outlining the various serpentine and peridotite bodies in that area would be an aerial magnetometer survey. Unfortunately, I cannot persuade the management here to undertake this considerable expense on the strength of one disproved asbestos showing.

Advertising for asbestos properties in local newspapers in Oregon proved to be fairly successful. Could you supply me with names of prominent dailies in Marinette and Florence counties? Do you have geological maps of these two counties?

Yours very truly

FLINTKOTE MINES LIMITED

*T. Davies*  
T. Davies  
Chief Geologist

TD/m

March 23, 1954

Mr. T. Davies  
Chief Geologist  
Flintkote Mines Limited  
Thetford Mines, P.Q.

Dear Mr. Davies:

Thank you for your letter of March 17. I am forwarding a couple of samples of the asbestos under separate cover. I am also forwarding a copy of the geophysical report on the Herriman property; this report is the property of the Star Mining Company and they would like it returned as promptly as possible. I did not have it reproduced as this would be fairly expensive; however, there is no objection to your reproducing all or part of the report for your files, should you desire.

The report indicates that this is a small vertical plug and the large anomalies are almost certainly due to the magnetite content of the peridotite and not to the serpentine or asbestos itself.

I contacted Mr. Frank Bowman regarding the status of the mineral rights on the above property and he wrote the following:

"The so-called Herriman asbestos property is owned by Mr. Luther A. Herriman of Peshigo, Wis. It is subject to an option to purchase by the Star Mining Company. In the event Star Mining Company exercises such option Star Mining Company agrees to discharge the lien of the Defense Minerals Administration in the amount of some \$3,200 for work performed in exploring the property and a lien of the County of Marinette for old age assistance to Mr. Herriman in the amount of some \$4,000."

I believe that the Herriman property was examined by a representative of Johns-Manville, but do not believe that any exploration was done by this company, in fact I have no records of any exploration on asbestos outside of that by the Star Mining Co.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY

State Geologist

# FLINTKOTE MINES LIMITED

SUBSIDIARY OF THE FLINTKOTE COMPANY

ASBESTOS FIBRE



MINING AND MILLING

THETFORD MINES, P. Q.

March 17, 1954

Mr. G.F. Hanson  
State Geologist  
Geological and Natural History Survey  
The University of Wisconsin  
Madison 6, Wis.

Dear Sir:

I was pleased to receive your letter of March 11 with accompanying report, concerning asbestos and serpentine occurrences in your State.

I agree completely with your statement that workable asbestos deposits may exist despite the poor results obtained on the one property reported on.

It would be interesting to see the magnetometer survey mentioned in the report. Is it available? Last Summer, I visited an asbestos property near Ishpeming, Mich. My magnetometer survey gave inconclusive results. Another magnetometer survey on a property near Casper, Wyoming, failed completely to differentiate between serpentine and the bounding sediments. This latter fact also applies to all the serpentine masses and asbestos deposits in California and Oregon.

I would appreciate receiving from you all the pertinent geological maps and reports covering the serpentine-bearing areas. Kindly invoice us in triplicate. Do you know who owns the mineral rights on the present known asbestos properties? Have you a small sample of asbestos to send us from the mentioned pit?

If Flintkote should become interested in a property in Wisconsin, I should be pleased to visit you and Professor Emmons in Madison.



Page 2

Have any other Quebec asbestos-mining companies done exploration in Wisconsin in recent years?

I shall be pleased to hear from you again.

Yours very truly

FLINTKOTE MINES LIMITED

A handwritten signature in cursive script that reads "T. Davies".

T. Davies  
Chief Geologist

TD/m

*enc*  
*New Jersey*  
*Jobbins*

November 17, 1961

Mr. H. S. Jobbins  
Product Manager & Geologist  
The Flintkote Company  
East Rutherford, New Jersey

Dear Mr. Jobbins:

The only asbestos deposit in the state that appeared to have any commercial potential was the one in Marinette County.

The property, as of 1954, was owned by Mr. Luther Herriman of Pembine, Wis. and was subject to an option to purchase by the Star Mining Co., F.P. Bowman, Secretary, 303 Power and Light Building, Madison 3, Wis. A copy of the final exploration contract report is enclosed and you could obtain further information from Mr. Bowman. I believe that I forwarded this information to Mr. Davies, Chief Geologist of your company, in 1954.

Short fibre asbestos has been reported associated with a talc deposit near Milladore, just northwest of Stevens Point but, to my knowledge, has never been considered as a potential commercial source.

No information on these deposits is published but any of your geologists is welcome to consult unpublished notes etc. from our files at this office.

Very truly yours,  
WISCONSIN GEOLOGICAL SURVEY

State Geologist

GPH:ac  
Enc.



# THE FLINTKOTE COMPANY

EAST RUTHERFORD  
NEW JERSEY

November 14, 1961

Wisconsin State Geologist  
State Geological & Natural History Survey  
University of Wisconsin  
Science Hall  
Madison 6, Wisconsin

Dear Sir:

Can you advise literature and other information regarding the occurrence of asbestos fiber ore in the State, and particularly in Marinette County?

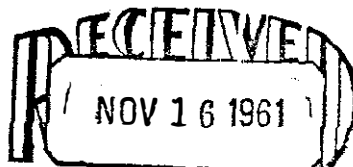
Are the deposits of commercial significance?

Very truly yours,

THE FLINTKOTE COMPANY

H. S. Jobbins  
Product Manager & Geologist

HSJ/pad



Wisconsin Geological Survey  
Madison, Wisconsin