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## Correspondence - W. 1923-1957

Thwaites, F. T. (Fredrik Turville), 1883-1961

[s.l.]: [s.n.], 1923-1957

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WISCONSIN PUBLIC SERVICE CORPORATION  
SHEBOYGAN, WISCONSIN

November 20, 1923.

Mr. F. T. Thwaites,  
Science Hall,  
Madison, Wis.

Dear Mr. Thwaites:

We have your report on the  
oil situation in this county. Also your bill  
for services rendered. We will send you our  
check within a few days.

The reason this has been delayed  
is that we have been conferring with the other  
parties and I think they are going ahead with it,  
although our Company has decided to do nothing  
with it.

Yours very truly,

WISCONSIN PUBLIC SERVICE CORP.,

  
Manager.

AFD:V.



Science Hall, Madison, Wis.,

Nov. 14, 1923.

Mr. A. F. Davey,

Wisconsin Public Service Corporation,

618 North Eighth St.,

Sheboygan, Wisconsin.

Dear Sir: I submitted my report and bill for services on October 23. Not having heard from you I beg to call the matter to your attention.

Very truly yours,

Consulting geologist.



October 23, 1923.

Mr. A. F. Davey,  
Wisconsin Public Service Corporation,  
618 North 8th Street,  
Sheboygan, Wisconsin.

Dear Sir:

Inclosed please find report on work which I  
did for you on October 12 and 13. My bill is

\$50.00 Fee for professional services

3.00 Expenses for hotel bill and meals

1.50 Stenographic services

\$54.50 Total

Yours very truly,

FTT-M



June 2, 1931

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I wish to thank you for your letters of May 25 and 29.

I will return the well logs soon but I wish to copy the Anboy record for my own information. I will soon look over the samples from Fulton and send them on to you. Things seem to be very slow in the drilling business up here, except for farm wells.

The cross section is nearly all drawn in pencil but I intend to ink it in and trace it before sending it on. The vertical scale makes it hard to show some of the topography and some of the pre-Cambrian monadnocks will look as if they had rivalled the Matterhorn! But that was not my choosing and I think the work will be well worth while.

I am to write up the geology of the section and will send you a copy of this for criticism.

Very truly yours,

Geologist in charge of well records



DEPARTMENT OF  
REGISTRATION AND EDUCATION  
M. F. WALSH, DIRECTOR  
SPRINGFIELD

STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

M. M. LEIGHTON, CHIEF  
305 CERAMICS BUILDING  
UNIVERSITY OF ILLINOIS CAMPUS

URBANA

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AND CONSERVATION  
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STATE UNIVERSITY  
DEAN CHARLES M. THOMPSON

May 29, 1931

Mr. F. T. Thwaites  
Geologist in charge of well records  
Geological and Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

We have not received a set of sample cuttings from the Fulton city well No. 3 and would be very glad to obtain yours after you are finished with them. Thank you for informing us of the samples.

We have had an unusual amount of drilling for deep water in northern Illinois this last year and there seems no abatement in the activity so far.

I hope that you get some interesting work for the summer.

Very truly yours,

*R. E. Walker*

Associate Geologist  
Section of Subsurface Studies



Dec. 11, 1931

Mr. H. L. White,  
State Water Survey,  
Urbana, Illinois

Dear Mr. White:

Your letter of Dec. 3 arrived just as I was called out of town so I did not get around to thanking you for it and the enclosed analyses until now.

To date I have not had time to digest the information enough to enable me to comment on it. It would seem, however, that softer water than is found in the deeper formations was entering the well before pumping. Pumping gave a more thorough mixture from the several sources. This same phenomenon could be brought about by pumping which opened up supplies of hard waters near the surface which had previously been shut out.

I will write you again when I have had time to look over the results and compare them with the thorough tests made for the Chicago and Northwestern Railway at West Chicago in 1923-24.

Very truly yours,

F. T. Thwaites, Geologist in charge of well records



BEAUTIFUL WAUKESHA  
WISCONSIN  
FAMOUS FOR ITS WATER  
AND HEALTH  
HOMES, INDUSTRIES, REST  
AND RECUPERATION  
THREE RAILROADS, CHURCHES,  
COLLEGE AND SCHOOLS  
CAPITAL OF DAIRY INDUSTRY

WRITE FOR BOOKLET

## CITY OF WAUKESHA WATER DEPARTMENT



*Waukesha*  
J. G. LAING, PRESIDENT  
E. E. HOWARD, SECRETARY  
A. P. KURANZ, SUPERINTENDENT

WATER COMMISSIONERS:  
H. E. BLAIR  
E. E. HOWARD  
J. G. LAING

WAUKESHA, WIS.

*132 North Street*

August 20, 1935

*MORELAND AVE*

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

Thanks very much for the blueprint map of the City of Waukesha indicating two faults which are now definitely known.

We have finished our well and are very busy right now with plans and specifications for the well house, pumps, motors and controls and the general rehabilitation planned for the North Street station.

When this is completed, I will give you a complete and detailed report on our North Street well.

For the present, I want to tell you that after a 72 hour test we obtained 1180 gallons per minute with a specific capacity at the end of the 72 hour test of 11.6 gallons. Another interesting fact was that we obtained but little sand after shooting with 800 lbs. of 100% dynamite at six points.

We were a little concerned at first feeling that perhaps the wrong spots had been selected, and of course we thought that after pumping 72 hours continuously we would find considerable sand in the hole. On the contrary, however, we found but little; but after the 72 hour test, the results mentioned above were obtained.

This is quite a bit different from our Baxter Street well where we received considerable sand after shooting and some after testing.

However, more detailed information later on.

Very truly yours,

WAUKESHA WATER DEPARTMENT

*A. P. Kuranz*  
Superintendent  
(A. P. Kuranz)

APK:AH



BEAUTIFUL WAUKESHA  
WISCONSIN  
FAMOUS FOR ITS WATER  
AND HEALTH  
HOMES, INDUSTRIES, REST AND  
RECUPERATION  
THREE RAILROADS, CHURCHES  
COLLEGE AND SCHOOLS  
CAPITAL OF DAIRY INDUSTRY  
WRITE FOR BOOKLET

## CITY OF WAUKESHA WATER DEPARTMENT



J. G. LAING, PRESIDENT  
E. E. HOWARD, SECRETARY  
A. P. KURANZ, SUPERINTENDENT

WATER COMMISSIONERS:

H. E. BLAIR  
E. E. HOWARD  
J. G. LAING

*Waukesha*

### WAUKESHA, WISCONSIN

November 22, 1935

F. T. Thwaites, State Geologist  
Department of Geology  
Science Hall  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Attached is a summarized report on the "shooting" and testing of the North Street Well started July 15, 1935.

I am planning on coming to Madison some day next week and bring with me the two tubes - one on Baxter Street and one on Moreland Avenue.

You will remember that we discussed repairing these and probably making new types.

If you plan on being away from your office the first three days of next week, I wish you would call me at my expense because I wanted to get this off my mind before Thanksgiving.

Otherwise, I will arrange to call on you one of the first three days of next week.

Very truly yours,

WAUKESHA WATER DEPARTMENT

*A. P. Kuranz*  
Superintendent  
(A. P. Kuranz)

APK:AH



*copy for 3.9.11*

*Green Lake*

February 1, 1936

Mr. L. H. Thorne  
W.L. Thorne Company  
Des Plaines, Illinois

Dear Mr. Thorne:

Following is a log of the well at Lawsonia which was drilled in 1920 by F.M. Gray, Jr.

Elevation 889 feet.

	<u>Thickness</u>	<u>Depth(feet)</u>
Drift	10	10
Lower Magnesian limestone	75	85
Trempealeau forma- tion	65	150
Franconia-limy sand	115	265
Dresbach sand - water	281	546

No record of water level or yield. 8" hole at bottom.

Very truly yours

WISCONSIN GEOLOGICAL SURVEY  
By

F.T.Thwaites, Geologist in charge of  
Well Records

FTT LMV



COE COLLEGE  
CEDAR RAPIDS, IOWA

Department of Geology  
March 27, 1936.

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I wish to thank you for sending me a reprint of your recent paper on photography. I have not had the opportunity to read it though yet, but Wolf is really making a thorough study of it in the mean time. I am very glad to have your paper and will put it to good use in a few months.

The esker problem is interesting and I will read Gansen's thesis when I go to Madison the next time. I feel that much of our trouble has been because we did not submerge the outlet, however I have learned much from our experiments.

I do not remember if I told you that my students had the same trouble as we had as students in your class with the Outline being too condensed. I have succeeded in overcoming this by handing out question sheets with every assignment. It works very well and they are an enthusiastic lot. I now have ten majors in geology and they are working the legs off of me. I do not know why I ever took botany as a major now that I have found that my interest is really geology.

Thanking you for the great help you have been to me.

Sincerely,

*L.R. Wilson*

L.R. Wilson



V. E. MONNETT, DIRECTOR  
C. E. DECKER, PALEONTOLOGY  
A. J. WILLIAMS, PHYSIOGRAPHY  
S. WEIDMAN, PETROGRAPHY  
G. E. ANDERSON, SEDIMENTATION

SCHOOL OF GEOLOGY

The University of Oklahoma  
Norman, Oklahoma

March 24, 1936.

F. A. MELTON, STRATIGRAPHY  
C. A. MERRITT, MINERALOGY  
O. F. EVANS, METEOROLOGY  
R. W. HARRIS, PALEONTOLOGY  
J. W. STOVALL, PALEONTOLOGY

Mr. F. T. Thwaites  
Science Hall,  
Madison, Wisconsin.

My dear Thwaites:

I want to thank you for the paper on Cambrian Strata you sent me sometime ago. I enjoyed reading it very much, especially that part describing the view's of Dr. Ulrich concerning the Black Earth dolomite and the Ozarkian system. I noted the reference, to a manuscript of a joint authorship in the files of the Wisconsin Survey which I suppose concerns the collection of fossils we made together on that memorable trip to Black Earth. As I understand it you and Twen<sup>hoped</sup> have often wanted this Black Earth collection returned, but have never succeeded.

With kind regards,

*S. Weidman*

S. WEIDMAN

SW:W



COE COLLEGE  
CEDAR RAPIDS, IOWA

Department of Geology  
March 9, 1936.

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

We are having some very interesting models working on our stream table for the glacial geology class and the chap that is doing his thesis with it has been trying to illustrate esker formation with no success at all. I notice that in your outline on page 46 you state that deposition in ice tunnels has been proved experimentally and I am wondering if you could give me a reference to this work. The experiments that Stintzi has made are interesting and we all have learned much from them. They have added much to the course. There are ten students in the class and most of these are going to the Tetons with me this summer to study the glaciers there. The college is paying my expenses so that end is taken care of. I expect to take a number of movies and use them in the general geology next year.

Today I saw your Outline advertised in an English book catalogue.

My second Forest Bed paper will appear in June in the Torr. Bot. Club Bull. and next month I have a paper on the development of Sweeney Lake in Oneida County. Last summer we discovered a lake near the station at Trout Lake that had reversed its development and next summer after returning from the west I plan to make an extensive study of the sediments and learn more about it.

In May I hope to pay Madison another visit and I have much to talk over with you.

Sincerely yours,

L. R. Wilson



March 24, 1936

Dr. L. R. Wilson,  
Gee College,  
Cedar Rapids, Iowa

Dear Wilson:

I am sorry to see that I let yours of the 9th go so long without answering. But I have to spend two nights a week visiting my mother in the sanitarium and the "Indians" keep me up until nearly 9 before settling down for the night. After that I am so tired that little is done before I have to roll in.

The experimental work on eskers was done some years ago by one Gensen who later quit geology to go into law if I remember correctly. He first tried ice but later made paper tubes and deposited sand and gravel in them even when bent into a hump. If I recall correctly he had short tubes not over two feet long and had considerable trouble in making deposits in them. In order to do this he had to keep the outlet submerged to check the velocity of the stream. His thesis is in our library but my own feeling is that the experiments were on too small a scale to mean very much. However they did prove that deposits can be made on an upgrade in a tunnel.

I am glad to hear that you are going out west. Wish they were as liberal here!

The Outline is sold out and orders have been so few this year that I have dropped all plans for a new edition. Almost all needed work is completed for a revision, all but a map which will show moraines.

The glacial class is now down to 10 but that is a lot better than last year with only 3!

Will be glad to see you when you come here.

Sincerely,

F. T. Thwaites



Watertown

March 3, 1936

Mr. H. G. Reichardt, Supt.  
City Water Department  
Watertown, Wisconsin

Dear Sir:

We have your order of January 15th and letter of same date. Work on the board will begin soon. The cost is not yet determined, but will not be very large, probably less than \$10.00. New construction eliminates all use of glass, and I think you will be pleased with it.

Yours very truly,  
WISCONSIN GEOLOGICAL SURVEY

In Charge of Well Records

FTT.



COE COLLEGE  
CEDAR RAPIDS, IOWA

Department of Geology  
January 21, 1936.

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

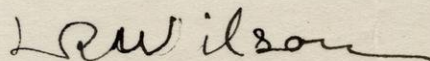
I wish to thank you for sending me the copy of your loess map and I am sending you ten cents in stamps which I hope will cover the printing of the copy. The map is a very interesting one and I have several questions to ask concerning it when I next get to Madison.

The student that I have at work on a sixty-five foot exposure of loess has tried out the leaching idea, which you suggested to me, and finds a fine correlation between that and the occurrence of fossils. He has now started a study of the concretions and it promises to be interesting.

Glacial geology is really popular here for there are fifteen students registered for the course and it probably will be necessary for me to send for more Outlines. The planned field trip to the Tetons is partly the reason for this interest for there are twelve students expecting to go with me. The work here is progressing very well but my regret is that I did not take a serious interest in geology much earlier.

Thank you for your many favors.

Yours very truly,



L. R. Wilson  
Instructor in Geology and Botany



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BRODHEAD - Water

State Board of Health

Capitol Building

Madison, Wisconsin

IN REPLY PLEASE REFER TO Bureau of Sanitary Engineering

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BIOLOGICALS AND PASTEUR TREATMENT

January 27, 1936

Prof. F. T. Thwaites  
In Charge of Well Records  
Wisconsin Geological Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

This will acknowledge and thank you  
for your letter of January 23 with enclosed blue  
print log of City Well #4 at Brodhead, Wisconsin.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

*L. F. Warrick*  
7

af



January 23, 1936

Mr. L.F.Warrick  
State Board of Health  
State Capitol  
Madison, Wis.

Dear Sir:

Enclosed please find one blue-print log of the  
City Well #4 at Brodhead, Wisconsin.

Yours very truly,

WISCONSIN GEOLOGICAL SURVEY

In charge of well records.

FTT:JH



Wauwatosa

January 7, 1936

Mr. Frank L. Dieter  
1501 Mower Court  
Wauwatosa, Wisconsin

Dear Sir:

In reply to yours of the 4th, enclosed are all the logs of wells in Wauwatosa which we have. We have no logs of public wells to the east of this, only a few private wells in Milwaukee and suburbs. They are all about the same but you will find that the water gets extremely hard as you go in that direction. Very deep wells get water with hardness of 1500-2000 p.p.m. Should you come to Madison, we will be glad to show you what other data is available.

Very truly yours

WISCONSIN GEOLOGICAL SURVEY

By

F.T. Thwaites

Geologist, in charge of Well Records

FTT LMV

enc.



Tigerton

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C. A. HARPER, M. D., MADISON,  
STATE HEALTH OFFICER  
L. W. HUTCHCROFT, MADISON,  
STATISTICIAN

TIGERTON - Water

State Board of Health

Capitol Building

Madison, Wisconsin

December 23, 1935.

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BIOLOGICALS AND PASTEUR TREATMENT

IN REPLY PLEASE REFER TO  
Bureau of Sanitary Engineering.

Professor F. T. Thwaites,  
Wisconsin Geological Survey,  
University of Wisconsin,  
Madison, Wisconsin.

Dear Professor Thwaites:-

This will acknowledge and thank you for  
your letter of December 19th giving information and  
data concerning the well at Tigerton, Wisconsin. We  
appreciate being furnished with this information for  
our files.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWm



*Tigerton*

Dec. 19, 1935

Mr. L. F. Warrick, State Sanitary Engineer,  
State Board of Health,  
State Capitol,  
Madison, Wisconsin

Dear Mr. Warrick:

I had not been able to write you earlier about the well at Tigerton because I could not locate it on my 1926 map. The other day I went into your office and looked more closely at the map of the city in which many streets have been laid out since I was there.

I discovered that the well is roughly 500 feet west and 1300 feet north of the nearest outcrops of granite. It is about 2200 feet east to the downtown district where I visited a pit in disintegrated granite.

I concluded at the time that the vicinity of the well is underlain by glacial till. This conclusion was based on the large number of glacial boulders and on the heavy soil. The first sample from the well does, in fact, look like till although it is possible that it is simply weathered sand.

My opinion is that the well is reasonably safe unless in very dry weather the water table is greatly lowered resulting in more rapid passage of water through crevices in the granite than is normal. The clay layer into which the well is cased naturally ends against the granite for otherwise no water could reach the bottom of the well. The water should be carefully watched for contamination when the well is placed on production and the possibility of ordering chlorination kept in mind. My opinion is that the well is on a par with one in limestone with nearby outcrops so far as safety is concerned.

Very truly yours,

F. T. Thwaites, in charge of well records,  
Wisconsin Geological Survey



# WISCONSIN WELL DRILLERS' ASSOCIATION

H. A. BUTLER, Secretary  
DELAFIELD, WISCONSIN

Louis Faust, President,  
Kaukauna  
Frank Acker, Vice Pres.,  
Hales Corners  
M. F. Baley, Treasurer,  
Hillsboro

TO ALL WISCONSIN WELL DRILLERS:

Please be advised that the State Board of Health informs us they are now ready to draft the necessary rules and regulations establishing minimum standards and requirements governing well drilling operations, pursuant to the provisions of Chapter 434 of the Laws of Wisconsin for 1935.

This is going to necessitate the spending of time of some of our members in conferences at Madison and further expenses to carry out the program, which was so well started, and thus insure the protection we have sought for years past.

We sent all Wisconsin well drillers an open letter some weeks ago, requesting funds to help pay our bills for legislative expenses. Less than \$100.00 was received in the form of voluntary contributions. We appreciate very much the cooperation of those who have sent in checks.

We need and must have more money to carry on now, and this is a matter which vitally affects you and every other member of the industry.

If you want to see our industry put on its feet in a way that every legitimate well driller may be proud of his calling and able to make a living wage, you will help.

We do not believe there is a legitimate well driller in the state who cannot afford to send us a ten dollar bill, if he only wants to do so. We ask for it, not for salaries of officers, or to fritter away, but because we need it as herein explained.

What is worth doing is worth doing well. Without necessary funds we cannot continue the work which will make you proud of your profession and of membership in the Wisconsin Well Drillers Association. It is necessary to levy an assessment of \$10.00 per well driller to pay our debts as above specified, and to provide a war chest for future contingencies.

Please send us your check by return mail.

Make all checks payable to Wisconsin Well Drillers Association and mail to H. A. Butler, Delafield, Wisconsin.

Very truly yours,  
WISCONSIN WELL DRILLERS ASSOCIATION

By: H. A. BUTLER, Secretary.

LOUIS FAUST, President.

P.S. Convention dates have been set for January 16 and 17, 1936 at Madison.



*Tigerton*

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STEPHEN CAHANA, M. D., MILWAUKEE  
C. A. HARPER, M. D., MADISON,  
STATE HEALTH OFFICER  
G. W. HENIKA, M. D., MADISON,  
ASST. STATE HEALTH OFFICER  
L. W. HUTCHCROFT, MADISON,  
STATISTICIAN

TIGERTON - Water Supply

State Board of Health

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Madison, Wisconsin

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BIOLOGICALS AND PASTEUR TREATMENT

IN REPLY PLEASE REFER TO Bureau of Sanitary Engineering

September 24, 1935

Mr. F. T. Thwaites  
In Charge of Well Records  
Geological and Natural History Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

This will acknowledge and thank you for your letter of September 23 presenting information concerning the character of the geological formations encountered in the drilling of the new village well at Tigerton and your observations regarding the further development of this supply.

As the PWA is insisting upon a statement covering the quantity and quality of water available in the Tigerton area before allowing the village to proceed with its water supply project, it would be appreciated if you would draft the same type of letter that you furnished in the case of Adams, sending us four additional copies in order that the same can be forwarded through the usual channels to Washington. While information available indicates that the well site is remote from possible sources of pollution, a definite survey will be made by an engineer from this department during the coming week to ascertain all of the facts. We will accordingly get in touch with you as soon as the necessary information is available in order that you may give as accurate an estimate as possible of the situation in the statement to go to the PWA authorities.

Appreciating your cooperation with this department in the interests of public health and welfare, we remain

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWaf



Dec. 1, 1935

Mr. Randall Wright,  
Box 632,  
Ojai, California

Dear Mr. Wright:

I was very glad to get yours of Nov. 24

I have not seen the publication you mention so can not judge of the validity of their correlations of glacial and non-glacial Pleistocene deposits. However, I am familiar with the work of <sup>Anton</sup> who places all of the marine Pleistocene of California as deposited long before the earliest known continental glaciation. There is a distinct possibility that the recognized four glacial stages of the Sierra are simply four substages of the last or Wisconsin glaciation and it might easily be that none of them is anywhere near as old as has been supposed. As I understand it the evidence of age consists largely of the disintegration of granite boulders and the amount of erosion of the older moraines. Comparison of age along these lines may be exceedingly misleading. I recall very well that Blackwelder when he was here in 1933 was much surprised to note the large number of disintegrated stones in the Middle Wisconsin drift. I wondered if he may not have received a jolt as to the reliability of such evidence!

The money order is returned herewith. The "Outline of Glacial Geology" is now published and the price is \$2.50

*post paid*



Box 632,  
Ojai, California,  
November 24, 1935.

Dear Mr. Thwaites:

In lo these many years since I left Madison, I have remembered your kindness to me.

I saw your paper on the PreCambrian surface of Wisconsin and, incidentally the reference to my theses.

At present I am a geologist with the Chanslor-Canfield Midway Oil company, with my headquarters at the Rincon field, near Ventura. My work has been pleasantly diversified in microplaleontology and other methods of correlation together with petroleum engineering and some field work.

Some work I am doing on Pleistocene Foraminifers has made me wonder about some of the correlations. In Grant and Gale's Memoir, (1, San Diego Natural Hist. Mus., 1931) 'Plio. and Pleist. Mollusca of Calif.', the various glacial advances are correlated with marine deposition here and in England and with European cultures. Perhaps some time you would be so kind as to indicate your opinion of the probable accuracy of those correlations.

Please do me the favor to send a copy of your mimeographed volume on glacial geology. I enclose a money order.

I would like to be remembered to Mrs. Thwaites.

Sincerely yours,

*Randall Wright*



Webster

November 21, 1935

Mr. John Wilson  
Consulting Engineer  
600 Torrey Building  
Duluth, Minnesota

Dear Sir:

In reply to yours of the 18th, we have no information on wells in or near Webster which are over 75 feet deep. The surface deposit is sand underlain by up to 10 feet of clay. Most wells end in a sand below the clay. Probably some till or hardpan underlies this deeper sand. There is no information on water quality or on the nature of or depth to the bed rock. The bed rock may either be thin sandstone overlying trap or trap directly below the drift. You are reasonably assured of getting water in sufficient amount but it will probably contain iron.

I suggest a test hole down to trap before designing a well. If you drill, will be glad to send sample bags for cuttings and to advise you further. If you get a drift gravel, it should be developed, unless a sandstone well should figure out cheaper. Under no circumstances should water be sought in the trap.

Very truly yours

WISCONSIN GEOLOGICAL SURVEY

By

Geologist, Well Records

FTT LMV



# DAVID WHITE COMPANY, Inc.

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ON ALL METALS

November 1, 1935

The University of Wisconsin  
Madison  
Wisconsin

Attention Mr. F. T. Thwaites

Gentlemen:

We thank you for your letter of October 31 addressed attention of The C. F. Pease Company. As you no doubt know, we are distributors for the Pease Company for the State of Wisconsin, and we are in a position to furnish you any of the items listed in the Pease catalog.

We submit the following quotation for your approval:

No. 526 Dotting Pen, for straight lines with 3 wheels, at \$3 net.

No. 524 Drop Spring Bow Pen and Pencil, for small circles, \$3 net.

No. 520 Bow Pen, center adjustment, \$2.75 net.

One box of assorted Road Pens, 36 to a box, 50¢.

You will notice that we are quoting you on two types of bow pens. No. 520 will make circles up to about  $2\frac{1}{2}$  inches in diameter, while the Drop Spring Bow Pen is intended for very small circles as well as circles up to about  $1\frac{1}{2}$  inches in diameter.

We hope that we may receive your valued order for the above material.

Yours very truly,

DAVID WHITE COMPANY, Inc.

By *E. G. Lucke*  
E. G. Lucke, Sales Manager.

EGL:DL



Oct. 31, 1935

C. F. Pease Co.,  
315 West Court St.,  
Milwaukee, Wisconsin Attention Mr. E. C. Lucke, Sales Manager

Gentlemen:

I am interested in obtaining one of your No. 536 dotting instruments, also a bow pen for making circles up to two inches or more diameter, as well as a few road pens which make two parallel lines of same width. I could not find the latter in your catalog which I saw. Could you kindly furnish me with prices?

Very truly yours,

E. T. Thwaites



Nov. 4, 1935

Mr. L. R. Wilson,  
Gee College,  
Cedar Rapids, Iowa.

Dear Mr. Wilson:

Yours of Oct. 25 and enclosed manuscripts are at hand. I have read the manuscripts and indicated suggestions in pencil.

With regard to Douglas County I must admit that my personal knowledge of the area is slight. I published another interpretation of the glacial geology in the second edition of the Outline. The page with changes is enclosed. However, I am not satisfied with either view. You had better paste this page into your book. On the whole I now lean toward the Loverett interpretation but the clear evidence of a Patrician source for the Mankato drift in northeastern Wisconsin absolutely prohibits a Labradorian source for the Mankato at Superior. I suggest that earlier Labradorian moraines may have been confused with the Mankato because thinly covered with the later till. Also striae of different ages may have been confused. The Mineral Land surveys simply add to the confusion. I simply cannot see Aldrich's ideas on Lake Grantsburg. Most of the area is ordinary pitted outwash. Bean agrees on this. In respect to Martin's new names for glacial lakes I feel that they have never been accepted by anyone else and simply add to the already great confusion of names. Lake Milwaukee is simply the early stage of Lake Chicago and is so termed on my maps. He got into an argument with Loverett over Prof. Paper 154 where L. (justly I think) pitched into his theory of the capture of St. Louis River. Martin also ignored my ideas on the cause of the red color of the Mankato drift, not that I ever claimed that ice direction was the sole cause of the red color.

I feel that the paper on the Forest Bed is well worthy of publication especially as the other is nearly out of print. I have a few extra copies, two or three I guess.

I am glad to hear that you are finding more forest beds and are making so many contributions to Pleistocene geology.

The Outline is now down to about 40 copies with orders coming in pretty regularly. The question of a third edition must be answered soon or the second semester may catch me short.

My physiography class is now up to 35 of whom only 9 are majors in either Geology or Geography, however. Have one Botany major.

Sincerely,

F. T. Thwaites



**Coe College**  
**Cedar Rapids, Iowa**

October 25, 1935.

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I wish to thank you for sending me your paper on the Pre-Wisconsin Terraces of the Driftless Area.

I am enclosing two manuscripts which I wonder if you would kindly criticize. The first is the geology part of my thesis and I would like to have you look it over before I type the whole thing for final submission to the dean. If you have any suggestions for this treatment I will certainly appreciate them. The second is the revised and modified edition of the paper I wrote for you on the northern exposure of the Two Creeks forest bed. I have had several requests recently for the first forest bed paper and my supply is so near exhaustion that I have declined in sending these reprints out. I am wondering if this paper is worth publishing? I can easily get it taken care of by the Bull. Torr. Bot. Club.

Just the other day I discovered another forest bed but I doubt very much that it is workable. It is on top of Kansan gumbo till and the logs, stumps, and branches are nearly completely replaced by iron compounds. The forest bed appears as a tangle of pipes. Maybe it will be possible to develop a new technique for studying these fossils.

Yours very truly,

*L. R. Wilson*

L. R. Wilson

*P.S. - There are to be ten students taking seminar in glacial geology next term. Will be using your outline. L.R.W.*



# WASHBURN CITY SCHOOLS

WASHBURN, WISCONSIN

Oct. 28, 1935

V. E. KIMBALL,  
CITY SUPERINTENDENT

Department of Geology.  
University of Wisconsin.  
Madison, Wis.

*Shaw*

Gentlemen:— Several sedimentary deposits of the past, at present a number of feet above lake level, have attracted the interest of many. With a few cuts in the hillside along a road bed. the stratifications are very noticeable and very unique. The faults are marked and 12 or 13 distinct layers, pitched at various angles are observed, some of which are of a sand and others of a clay nature. Now the point which we are wondering about is the age, whether water or wind formation etc. The lay of the land is very irregular and has been covered with forests - the slopes are very steep and the rocks are quite hard. At present time I have no photos of the formation - nor do I have any further information which will help solve the problem. If you can give me some data which would definitely explain the age and the possible formation I shall much appreciate it. Thank you in advance for this favor.

Sincerely,  
C. R. Wentland,  
Box 363.

(over)

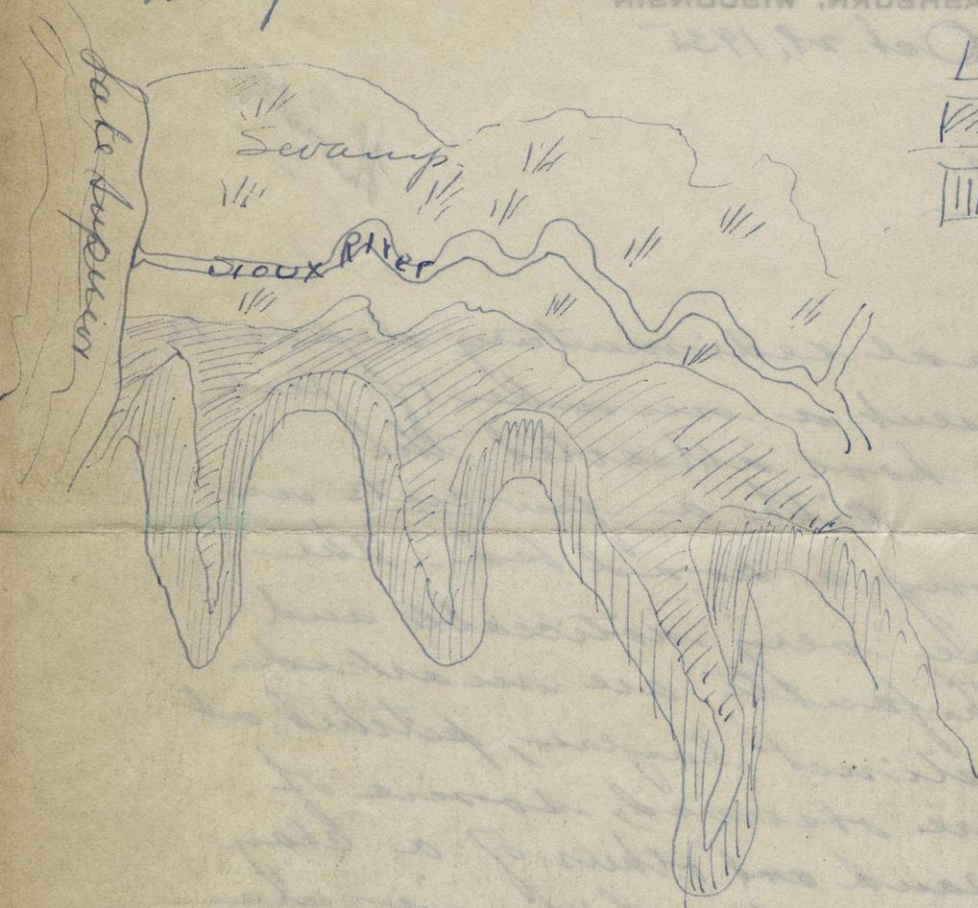


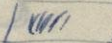
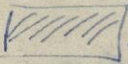
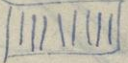
Here is a partial sketch of the cross section of the land.

Relief

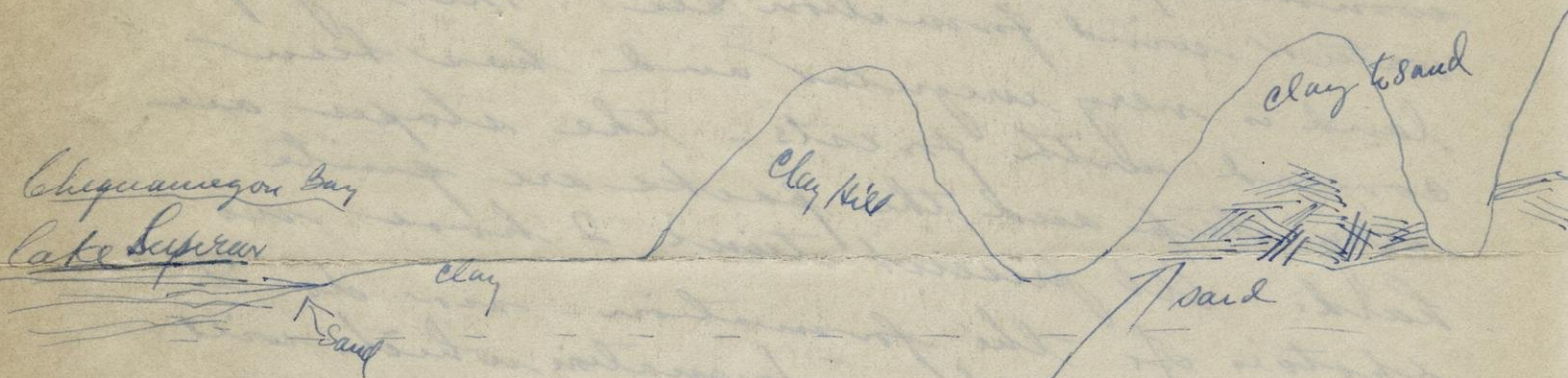
WASHBURN CITY SCHOOLS

WASHBURN, WISCONSIN



-  Swamp
-  25 to 50 ft above lake level
-  50 to 75 ft above lake level

Cross section



faults in sand.  
 Clay lower ground.  
 Clay upper ground.  
 Sand varies in thickness.



Washburn

Nov. 4, 1935

Mr. C. R. Howland,  
Box 363,  
Washburn, Wisconsin

Dear Sir:

I wish to thank you for your letter of October 28 with diagrams of the faulted and folded sands near Sioux River.

I visited the cuts just south of the river in 1934 and climbed one of the banks to take a photograph of the old lake beaches to the north. It seems as if this must be the place you mean and not the hill north of the river near to the old quarry.

Phenomena of this kind are generally due to ice shove caused by a readvance of the glacier over water deposits. Although I made no detailed examination of the deposits when there your description strongly suggests that the sand and clay is a lake deposit. The history is probably as follows.

During the last or Wisconsin glaciation there were several marked readvances of the ice margin due to increased snowfall on the glacier. During the recession of the ice just before the last one a high level lake was shut in front of the glacier between it and the hills to the west. In this lake sand, silt, and clay accumulated. When the glacier obtained a new lease on life and was able to advance its margin it filled this lake. In the process the deposits on the lake bed were considerably disturbed and then buried with a mixture of red clay and stones. After the last recession of the ice another lake was formed which left marked beach lines up to more than 500 feet above the present lake level.

Information on these matters may be obtained from:

Bull. 36, Wisconsin Geological and Natural History Survey  
by Lawrence Martin

Prof. Paper 154 U. S. Geological Survey by Frank Leverett  
Outline of Glacial Geology by F. T. Thwaites

Bull. 25, Wisconsin Geological Survey by F. T. Thwaites

Very truly yours,

F. T. Thwaites



**Coe College**  
Cedar Rapids, Iowa

October 12, 1935.

F. T. THWAITES  
Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

*sent separate  
Oct 18, 35*

Dear Mr. Thwaites:

I have a student working on the terraces of the Cedar River for his thesis and would like to have him see your paper on the Pre-Wisconsin terraces of the Driftless Area of Wisconsin. We do not have the Bull. Geol. Soc. Amer. as far back as 1928 in our library and I am wondering if you have a reprint of this paper that you could spare for my files.

Last Saturday I visited Ft. Madison and secured a great deal of Aftonian peat and wood from two exposures. I have not had time to examine it seriously yet, but already I have gotten out more organisms, both plant and animal, than has been previously reported. After I finish up my other work I will get at this and several other exposures that I have information about.

This year's teaching is much better than last. The enrolment in general geology has increased by one-third over last year. I have built a stream table, a geyser, and a model talus demonstration so far and plan to build several other models to use in lecture and laboratory. These things have certainly <sup>p</sup>eped up the interest. For myself I have definitely decided to swing over into geology as soon as I finish my degree in paleobotany. The thesis is ready now and I plan to go to Madison for a week as soon as I feel it will be safe to leave my classes.

*You might be interested in the following reference.  
Nielsen, E. L. "A Study of a Pre-Kansan peat deposit" Torrey 35: 53-56, 1935.  
(in the Biol. B. library)*

Yours very truly,  
*L. R. Wilson*  
L. R. Wilson



Sept. 20, 1935

Mr. E. A. Wyman,  
Amoradi Petroleum Corporation,  
Wichita, Kansas

Dear Mr. Wyman:

Enclosed is a print of the group at Mendota taken June 13, 1935. Some of the others had asked for copies so I had them run off for everyone.

Our post-post-conference trip to Limestone Mountain went off well. We found the "mountain" to be a syncline very similar to the Glover Bluff structure in this state. The paleontologists got a lot of fossils. But we did not have time to get to Manitowish to see the contact of the Lake Superior and Franconia. That will have to wait. After our return it took nearly a week to get the dents out of my back from the four nights on the ground!

My reaction to the trip itself is still that which I had before it started, namely that we tried to do too much. I think it would have been better to have closed the trip at either Chippewa Falls or some point not far to the west of that. But it's too late to argue over that. I certainly got a lot out of the trip and I am sure that the others in our party from here did also.

Sincerely,



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# State Board of Health

Capitol Building

Madison, Wisconsin

August 20, 1935.

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IN REPLY PLEASE REFER TO  
**Bureau of Sanitary Engineering.**

Mr. F. T. Thwaites,  
Department of Geology,  
The University of Wisconsin,  
Madison, Wisconsin.

Dear Mr. Thwaites:-

This will acknowledge and thank you for your letter of August 19th with enclosed logs of wells in various cities and villages in Wisconsin. Your cooperation with this department in furnishing these logs is appreciated.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWm



**Coe College**  
**Cedar Rapids, Iowa**

June 22, 1935.

Mr. F. T. Thwaites,  
Department of Geology,  
University of Wisconsin,  
Madison, Wisconsin.

Dear Mr. Thwaites:

Thank you for your letter of the 20th and the suggestions which you have kindly made concerning the shore line of Glacial Lake Duluth. I will follow these suggestions.

I am very glad to hear about another forest bed in northern Wisconsin and I will call on Mr. Dietz in September. Since the completion of my thesis I have a slightly different conception of early post Pleistocene plant migration and the interpretation that must be given to the fossils. As in the second Two Creeks paper I suggested that the fossils represented a pioneer vegetation and <sup>i</sup>ther climatic significance could not be taken as definitely meaning an arctic or subarctic climate. It is possible that a short distance beyond the Mankato moraines there grew all those species reported by Lawson. That problem is really just begun and I would certainly like to follow <sup>it</sup> though.

Next Thursday I am going to the A.A.A.S. meetings to give part of the thesis before the Am. Meteor. Soc. The general note of the paper is that fossil pollen studies ~~are~~ not as reliable ~~as~~ indicators of climate as is generally thought.

About the fifteenth of July I will be passing through Madison and will try to see you. I have several questions on Lake Calvin to ask you about. I am finding varved sediments out in front of the Iowan drift and they seem to connect up with Lake Calvin. If that is true then I am perplexed as to



**Coe College**  
**Cedar Rapids, Iowa**

their relation to the Iowan. The sediments which formed the varves appear to have had their origin from the outwash of the Iowan. I will bring some of the evidence with me.

Thanking you again for your advice.

Yours very truly,

*L. R. Wilson*

L. R. Wilson



June 20, 1935

Mr. L. R. Wilson,  
Dept. of Geology,  
Coe College,  
Cedar Rapids, Iowa

Dear Wilson:

I was very sorry to miss you by so narrow a margin when you were in Madison. Yours of the 5th with enclosed maps has been on my desk for too long a time but the trouble was that not only was I quite ill but matters for the forthcoming Kansas Geological Society Field Conference in August were most pressing. I am somewhat better now and will try to clean up all letters before finishing up the last work for the conference.

By the way I had a notice from the County Agent, Mr. Dietz, at Hurley that he knows of some Forest Bed exposures near Saxon. I told him that I would inform you. He did not give the locations but offered to find them if you can get up there.

With regard to the maps which I am returning herewith the matter places me in some difficulty. So far as this northern part of Lake Grantsburg goes I have no hesitation in advising its omission. The area is as you say just ordinary outwash. I have seen some of the area and talked with Bean and we agree that the lake clays which have been found have no bearing on the matter because they are local incidental features only.

So far as the highest level of Lake Duluth goes it is another matter. There one must try to balance the long experience of Leverett against the more detailed examinations of the inexperienced "mineral lenders." If it were my choice I would show Leverett's map and simply say that some evidence of older and higher lake levels have been found by Mansell and others. I have not examined these supposed high level beaches but it would seem to me that lakes up to the level of the outwash plain in the Solon Springs region may very easily have existed. On the other hand, I have become very hard to convince about glacial lakes because so many were simply local ponds.

I will probably be around town most of the summer so if you come in would be glad to have you call on me. Wish we could have as assured a future as you seem to have but instead are faced by another big cut apparently for punitive reasons so far as I can find out.

Sincerely,

F. T. Thwaites



**Coe College**  
**Cedar Rapids, Iowa**

Department of Geology  
June 5, 1935

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I am writing to you to ask your opinion and advice on the use of the two maps that I am enclosing. The problem that is puzzling me is which to use in a discussion of Lake Duluth. I have a recollection that you once told me that Leverett did not observe the highest beach of Lake Duluth in Douglas County and I am wondering if Hansell's map shows the location of this higher beach. The point in question is the time of origin of Bog No. 8 shown on the maps. The map that I use materially affects this date as you can readily see, and I am anxious to have your advice. I was able to make a hurried survey of the supposed edge of the outer island shown by Hansell, and it appears to me that there was indicated a slight beach development. The area between the two islands is an extensive peat deposit, and the interesting thing, to me, is that the lowest levels of this deposit contain fossils of an arctic flora not present in the region today. If Hansell's map is the better one to use for Lake Duluth, I am wondering about the outlet to the Brule and St. Croix rivers via Minnissing Lake. Is that correct? There is a rather deep valley which extends through that region, but I have thought of it as having been developed in light sand in comparatively recent time by the small stream which flows through it. Then also comes the awkward question as to what is to be done with Lake Grantsburg. There certainly is no evidence from the fossils that would suggest the existence of such an extensive lake. The new exposure of varved clays that I discovered at Solon Springs are high up a hillside and generally above the surrounding country. It appeared as though they might have been deposited in a very local lake, possibly in field of stagnant ice. The barrens, to me, look like good pitted and unpitted outwash plains. If Hansell's map should be used will you kindly advise me how to handle the



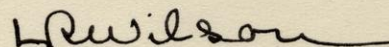
**Coe College**  
**Cedar Rapids, Iowa**

Lake Grantsburg problem so as to escape the argument which I know has been in progress so long. I feel that I have little or nothing to contribute to it, and I have no wish to become involved.

I was very sorry not to have been able to see you while I was in Madison, but I was kept busy arranging certain personal matters.

The work here is progressing very well and the college has made the financial aspect much more comfortable for next year.

Yours very truly,



L. R. Wilson

LRW/EFG



May 28, 1935

Mr. L. R. Wilson,  
Gee College,  
Cedar Rapids, Iowa

Dear Wilson:

Was sorry to miss you Saturday but the afternoon is the only time during the week when I can get out with my family and so could not wait any longer.

Thank you for the separate.

The preparation for the Kansas Geological Society trip is taking almost all the time I have outside of class hours.

Hope to see you next time you come in.

Sincerely,

F. T. Thwaites



May 21, 1935

Mr. L. R. Wilson,  
Gee College,  
Cedar Rapids, Iowa

Dear Mr. Wilson:

In reply to yours of the 17th I have not been going to the office on Saturday mornings as I work then on the Kansas Geological Society project. If convenient for you to run over to my house that would be all right with me but if not please do not hesitate to call me up and I will meet you in town.

With best regards,

Sincerely,

F. A. Thwaites



**Coe College**  
Cedar Rapids, Iowa

Department of Geology  
May 17, 1935

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I expect to be in Madison next Saturday morning and would like to know if it would be convenient for you to see me and criticize several maps I have been working on.

Yours very truly,

*L. R. Wilson*

L. R. Wilson

LRW/EFB



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MARION - Water Supply

# State Board of Health

Capitol Building

Madison, Wisconsin

March 25, 1935

IN REPLY PLEASE REFER TO

Bureau of Sanitary Engineering

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LABORATORIES  
HOTEL AND RESTAURANT DIVISION  
BARBER AND COSMETIC ART DIVISION  
EMBALMERS DIVISION  
BIOLOGICALS AND PASTEUR TREATMENT

Prof. F. T. Thwaites  
Geologist in Charge of Well Records  
Wisconsin Geological Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

This will acknowledge and thank you for your letter of March 23 concerning the water supply development at Marion, Wisconsin. Your cooperation with this department is appreciated.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWaf





SERVING THE HEART  
OF WISCONSIN

**WISCONSIN POWER AND LIGHT COMPANY**  
122 W. WASHINGTON AVE.  
MADISON, WISCONSIN

March 5, 1935

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Please accept our thanks for the information given regarding the well at Mayville.

I turned over your request for permission to visit our Prairie du Sac Plant to Mr. R. G. Walter, who no doubt has gotten in touch with you regarding same.

Yours very truly,

Paul DeLeon, Industrial  
Power Sales Supervisor

PDeL:EA



March 2, 1935

Mr. F. A. Torkelson, City Engineer,  
Wauwatosa, Wisconsin

Dear Mr. Torkelson:

In reply to yours of Feb. 26 I have checked our records and find no information on your Well No. 2. I have a very distinct recollection that the samples from Well No. 3 drilled by Peterson were the first from your city to reach us. I just checked up all records for Mr. Kirchoffer who requested a set of blueprints. I am confident that the samples were lost or sent to someone else after you left. However, the records of the other wells check very well so I think we can interpolate and find the facts within a small amount of error.

I will be glad to get the information on the locations and surface elevations of the wells when it is ready.

Very truly yours,

F. T. Thwaites, In charge of well records,  
Wisconsin Geological Survey



Feb. 26, 1935

Wisconsin Power and Light Co.,  
122 West Washington Ave.,  
Madison, Wisconsin Attention Mr. Paul DeLeon, Industrial Power Sales Supervisor

Gentlemen:

In reply to yours of the 15th I am enclosing blueprint logs of the two wells drilled by F. M. Gay, Jr. at the old coke plant northeast of the iron works at Mayville. I have no information on the quality of the water or its temperature. The only information I could find on the amount of water is contained on one of the prints. This indicates a specific capacity close to 40 which would be very high for a rock well in that region. If correct, it indicates that considerable production was obtained through leaks in the first rock which were fed by waters in the gravel beds. I have always felt that the greatest water resources at Mayville are these gravels above the rock but they have not to my knowledge been developed.

I have no doubt that the wells would furnish good water in sufficient amount to supply the needs of the malting business. The city supply is drawn from similar wells of which I have no logs. The A. and P. Products Co. also has a deep well. A city well 426 feet deep showed total solids of 780 p.p.m. with 141 parts of sulphate. Almost all the solids are encrusting.

Very truly yours,

F. T. Thwaites, In charge of well records  
Wisconsin Geological Survey



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STATISTICIAN

CAMPBELLSPORT - Water Supply

## State Board of Health

Capitol Building

Madison, Wisconsin

February 13, 1935.

Bureau of Sanitary Engineering.

IN REPLY PLEASE REFER TO

DEPARTMENTS

BUREAU OF GENERAL ADMINISTRATION  
BUREAU OF COMMUNICABLE DISEASE  
BUREAU OF VENEREAL DISEASE  
BUREAU OF VITAL STATISTICS  
BUREAU OF EDUCATION  
BUREAU OF MATERNITY AND  
CHILD WELFARE  
BUREAU OF PUBLIC HEALTH NURSING  
BUREAU OF NURSING EDUCATION  
BUREAU OF SANITARY ENGINEERING  
BUREAU OF PLUMBING AND  
DOMESTIC SANITARY ENGINEERING  
STATE LABORATORY OF HYGIENE  
BRANCH AND COOPERATIVE  
LABORATORIES  
HOTEL AND RESTAURANT DIVISION  
BARBER AND COSMETIC ART DIVISION  
EBALMERS DIVISION  
BIOLOGICALS AND PASTEUR TREATMENT

Mr. F. T. Thwaites,  
Department of Geology,  
The University of Wisconsin.

Dear Mr. Thwaites:-

This will acknowledge and thank you for your letter of February 12th providing information concerning the public water supply at Campbellsport, Wisconsin, requested in our letter of February 8th.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

M



BEAUTIFUL WAUKESHA  
WISCONSIN  
FAMOUS FOR ITS WATER  
AND HEALTH  
HOMES, INDUSTRIES, REST  
AND RECUPERATION  
THREE RAILROADS, CHURCHES,  
COLLEGE AND SCHOOLS  
CAPITAL OF DAIRY INDUSTRY  
WRITE FOR BOOKLET

## CITY OF WAUKESHA WATER DEPARTMENT



J. G. LAING, PRESIDENT  
E. E. HOWARD, SECRETARY  
A. P. KURANZ, SUPERINTENDENT

WATER COMMISSIONERS:  
H. E. BLAIR  
E. E. HOWARD  
J. G. LAING

**WAUKESHA, WIS.**

February 2, 1935

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

Attached is our check in the sum of \$25.00 covering professional services rendered to us January 26, 1935

We received your report, and its contents carefully studied.

Specifications are being prepared and will be complete for advertising about February 12 and bids should be taken approximately February 26 and work should be started early in March.

The hearing on the construction of this improvement was held January 31, 1935 at Madison, but no one appeared to protest, consequently the commission will approve the project. I called on Mr. Warrick, State Sanitary Engineer, and he will approve specifications as soon as they are submitted to him. I discussed the matter very thoroughly with him when I was in Madison Thursday.

Very truly yours,

WAUKESHA WATER DEPARTMENT

*A. P. Kuranz*  
Superintendent

APK: AH

Enc. 1



OFFICERS AND MEMBERS

G. WINDESHEIM, M. D., PRES., KENOSHA  
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ASS'T STATE HEALTH OFFICER

L. W. HUTCHCROFT, MADISON  
STATISTICIAN

# State Board of Health

Capitol Building

Madison, Wisconsin

January 31, 1935.

DEPARTMENTS

BUREAU OF GENERAL ADMINISTRATION  
BUREAU OF COMMUNICABLE DISEASE  
BUREAU OF VENEREAL DISEASE  
BUREAU OF VITAL STATISTICS  
BUREAU OF EDUCATION  
BUREAU OF MATERNITY AND  
CHILD WELFARE  
BUREAU OF PUBLIC HEALTH NURSING  
BUREAU OF NURSING EDUCATION  
BUREAU OF SANITARY ENGINEERING  
BUREAU OF PLUMBING AND  
DOMESTIC SANITARY ENGINEERING  
STATE LABORATORY OF HYGIENE  
BRANCH AND COOPERATIVE  
LABORATORIES  
HOTEL AND RESTAURANT DIVISION  
BARBER AND COSMETIC ART DIVISION  
EMBALMERS DIVISION  
BIOLOGICALS AND PASTEUR TREATMENT

IN REPLY PLEASE REFER TO Bureau of Sanitary Engineering.

Mr. F. T. Thwaites,  
Wisconsin Geological Survey,  
The University of Wisconsin,  
Madison, Wisconsin.

Dear Mr. Thwaites:-

This will acknowledge and thank you for  
your letter of January 30th providing information con-  
cerning the wells owned by the Chicago and North Western  
Railway Company at Adams, Wisconsin.

I wish also to thank you for the copy of  
Circular 11, Ground Water Supplies of Allegany State  
Park, Albany, N. Y.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWm



Jan. 30, 1935

Mr. L. F. Warrick, State Sanitary Engineer,  
State Board of Health,  
State Capitol,  
Madison, Wisconsin

Dear Mr. Warrick:

Reply to yours of the 25th was delayed because I was out of town last Saturday which put me behind.

The Chicago and North-Western Railway Company has two 12 inch wells at Adams. No. 1 is located 1600 feet northwest of the station and No. 2 1200 feet northwest of the water tank. The log of No. 1 is as follows:

	Thickness feet	Depth feet
Sand	25	25
Clay	20	45
Sand, fine	85	130
Sandstone, fine-grained	185	315
"Granite"	5	320

132 ft. 4 in. of 12 inch drive pipe.

Well No. 2 is 305 feet deep to "granite". Well No. 1 yielded 12,000 gallons per hour on a long test. The water analyzes 1.41 pounds of encrusting solids per 1000 gallons. Shallow drive point wells in the city yield water with less than half as much solids but would not do for a municipal supply.

Existing analyses do not indicate the amount of iron in the water. As water with considerable iron is often encountered just above the granite that is what I fear most. I do not feel that there is any serious question about getting enough water but I advise careful testing of water quality during drilling to try to minimize the amount of iron. Samples from the railroad wells should also be tested.

If the railroad wells are satisfactory it is possible that one of them could be purchased or leased for the public supply although it is true that the cost of a new well, which would be more centrally located, should not be excessive.

Very truly yours,

F. T. Thwaites, In charge of well records,  
Wisconsin Geological Survey



Waukesha

Jan. 28, 1935

Mr. A. P. Kuranz, Superintendent,  
Water Department,  
Waukesha, Wisconsin

Dear Mr. Kuranz:

Enclosed please find copy of report on my visit to Waukesha on the 26th inst. Charge for this trip is \$25.00 bill for which is enclosed.

I will make anote to send you sample bags soon. If I complete a map showing my ideas about faulting as revised from the results of this visit I will do so but prefer to wait until the new well hits the St. Peter, as I have little confidence in the exactness of the record of the old wells.

I thought that you told me that Moorland Ave. well is alongside the high service reservoir but this does not jibe either with names of streets or with the elevation you gave. If you could find me an up-to-date map of the city would appreciate it.

If you bring up the tubes of the old wells will be glad to see what can be done to fix them or to replace them with new strips (not glass tubes).

Withbest regards,

Very truly yours,

F. T. Thwaites



Waukesha

Jan. 24, 1935

Mr. A. P. Kuranz, Superintendent,  
Water Department,  
Waukesha, Wisconsin

Dear Mr. Kuranz:

In confirmation of our telephone conversation of Tuesday I find that the best way for me to come to Waukesha at this time of year is via the Northwestern line on the train arriving at 9:30 A. M. I will return to Madison either via the bus at 4:50 P. M. or more likely via the train at 7:40 P. M.

Charge of a flat rate instead of simply expenses was made necessary by reduced salaries and appropriations. It was first started with the work I did for the City of Oshkosh a year ago. The charge will be \$25.00

Very truly yours,

F. T. Thwaites



Oct. 5, 1929

Hotel Wausau,

Wausau, Wisconsin

Gentlemen: I am planning on taking a class of about 25 on a field trip which calls for spending the night of Oct. 13 in Wausau. There are 11 girls and 14 boys in the class if all go. All of these are willing to go two in a room except that since there is an odd number of girls one will have to <sup>or a cot in another room.</sup> have a room alone. I will also want a room to myself. Please let me know what this will cost for I intend to collect from the students in advance and pay the bill in a lump sum. I would also like to arrange to get supper Sunday and breakfast Monday on a similar plan. That is I would like to have everyone served the same priced meal and I will then pay for all at once. Please state what priced meals are served.

Very truly yours,

F. T. Thwaites



Oct. 10, 1929

Hotel Wausau,

Wausau, Wisconsin

Gentlemen: In reply to yours of the 7th my party will consist of 10 girls and 14 men including myself so far as I can tell at present. I wish to arrange for rooms without bath unless some of them at the time desire to make a change to room with bath in which case I will collect the difference from them. We will have the party take breakfast all together at 7 Monday morning but will let them get their supper Sunday night wherever they wish and at their own expense. I wonder if it would be possible to take the party up to the roof to see the view on Monday morning.

Very truly yours,

F. T. Thwaites



FIREPROOF  
**SCHROEDER HOTELS**  
SLEEP IN SAFETY

HOTEL WAUSAU  
WAUSAU, WIS.

October 7. 1929

Prof. F. T. Thwaites  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

In reply to your letter of October 5th we are very pleased to quote you the following rates on our rooms:

Room for two without bath	\$ 3.50
Room for two with bath	5.00

We have rooms as high as seven and eight dollars if you would care for any of these.

The following are the prices of the meals:

Coffee Shoppe. club breakfast	.60
" " luncheon	40 and 50 cents
" " dinner	.75
Coffee Shoppe Sunday dinner	.85
Main Dining Room dinner	1.25

Trusting that we may have the pleasure of having you and your class as our guests. we are

Very truly yours,

HOTEL WAUSAU

*A. W. Gristock*  
Manager

AWG:t



DEPARTMENT OF  
REGISTRATION AND EDUCATION  
M. F. WALSH, DIRECTOR  
SPRINGFIELD

STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

M. M. LEIGHTON, CHIEF  
305 CERAMICS BUILDING  
UNIVERSITY OF ILLINOIS CAMPUS

URBANA

October 21, 1931

BOARD OF NATURAL RESOURCES  
AND CONSERVATION  
M. F. WALSH, CHAIRMAN  
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BIOLOGY - WILLIAM TRELEASE  
BOTANY - HENRY C. COWLES  
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STATE UNIVERSITY  
DEAN CHARLES M. THOMPSON

Mr. F. T. Thwaites  
Wisconsin Geological Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I wish to acknowledge with thanks the  
receipt of sample cuttings from the city well No. 3  
at Fulton, Illinois, which came some time ago.

Very truly yours,

*R. E. Workman*

Associate Geologist  
Section of Subsurface Data



# WAYSIDE HOTEL

JOHN M. GORLIN, Proprietor

WALWORTH, WISCONSIN

University of Wisconsin  
Dept of Geology. May 1. 19 30.  
Dear Sir;

In answer to your letter of April 28. We will gladly receive your party. Rooms for all and there is a double room on third floor.

Rates for room on first  
single \$1.50 double 2.50. Third.  
floor single 1.25 double 2.00  
Meals are ~~separate~~ European  
Plan.

Sincerely Yours.  
John M. Gorlin

E. B. S.



STEAM HEAT, ELECTRIC LIGHTS  
HOME COOKING

HOT AND COLD BATHS  
SUNDAY CHICKEN DINNERS \$1.00

# WAYSIDE HOTEL

The Tourist and Traveling Men's Home

J. M. GORLIN, Proprietor

WALWORTH, WISCONSIN

May 8, 1929

The University of Wisconsin  
Science Hall  
Madison, Wisconsin

Dear Sir:

A single room for yourself will be one dollar (\$1.00). Rooms for two will be two dollars (\$2.00). Suppers are fifty (.50) and twenty-five (.75) cents. You will have to pay for just what you order for breakfast. I can state no total cost not knowing what you will order for breakfast or which priced supper you will take but that can be arranged when you arrive.

Very truly yours  
John M. Gorlin,



April 28, 1930

Wayside Hotel,

Walworth, Wisconsin

Gentlemen:

I intend to bring a party of either 15 or 16 to your hotel this coming Saturday night, May 3. There are 13 men and probably two women. I desire a room for myself unless you have a room with two beds. Others will double up so far as possible. As in the last two years I will pay for the party in a lump sum both for rooms and meals. In reply please give your rates and state how late we may have dinner Saturday night as we may be somewhat late in arriving.

Very truly yours,

F. T. Thwaites



Science Hall,

Sept. 29, 1930

John Wiley and Sons,

Publishers,

New York City

Gentlemen:

I am teaching a course in Physiography of the United States and am using Bowman's Forest Physiography. Could you please send me the usual complementary desk copy?

Very truly yours,

F. I. Thwaites, Lecturer in Geology



Aug. 26, 1931

Mr. L. L. Whiting,  
212 S. Main St.,  
Lake Mills, Wisconsin

Dear Mr. Whiting:

In reply to yours of the 19th plans are assured for a trip to Waushara County from Sept. 8 to 22. I am certainly glad that you intend to come.

Students going on the trip are all seniors and will use material gathered to write up theses. Onail thinks he will write up the lake beaches. Other subjects will include the flowing wells and the temperatures of the water as related to depth, the distribution and nature of the pre-Cambrian inliers, the relation of red and gray drifts, whatever Cambrian stratigraphy we can find, as well as the glacial history in general. I intend to work in two parties changing myself between the two every day. We will live in camp, probably on Johns Lake near Wautoma. In camp we will get breakfast. Lunch will of course, be in the field, and we will take supper at some suitable place in the city. Bedding will be needed and a cot if possible as I have only two good cots. Icke and I have fixed a truck for an office. A gasoline lantern is much needed but if we cant borrow one will buy one up there. Your car will be much appreciated. Expense of running two cars will be divided between students but I will pay my own living expenses. Total party will be four. I think I mentioned that we will get someone at Madison to register and pay fees for those going so as to save time on return. I am sorry the trip has to be so late but I have to make a trip south and will not be back until then. I intend to try to pull out before noon on September 8.

Sincerely,



Colorado Springs, Colo.  
August 19, 1931.

F. T. Thwaites  
Route 4  
Madison, Wis.

Dear Mr. Thwaites:-

Shortly after seeing you last I arranged to take a trip out here to Colorado and I left without notifying you. I left word with a friend of mine to call you but evidently he didn't.

I am certainly interested in going with you and will be home in time enough to do so. I expect to be back at Lake Mills about the first of Sept. If you can write me at Lake Mills by that time and give me full particulars I would appreciate it very much. My car will be available for the trip so you can figure on it if you need it.

Until the eighth then, I remain,

Very Truly Yours

Lester L. Whiting



August 14, 1931

Mr. L. L. Whiting,  
212 S. Main St.,  
Lake Mills, Wisconsin

Dear Mr. Whiting:

I am writing as I failed to see or hear anything of you last Saturday. The proposed trip to Waushara County has been postponed until Sept. 8. This will allow us two weeks in the field provided we get someone to register and pay the fees for those who go. Return will be day before classes start. There will be opportunity to work up thesis subjects on either glacial, glacial lake, sedimentary rock, or igneous rock subjects. If you are interested in going please let me know within a week as I have to leave town on Aug. 26.

Very truly yours,

Lecturer in Geology



June 24, 1931

Mr. Joe Wannemacher,

Box 142,

Baraboo, Wisconsin

Dear Joe:

Since making arrangements with you Mr. Robinson of Chicago called me up to say that he will probably come up here tomorrow. He is to call me again in the morning too late to for me to leave even if he does not come so I'm afraid we will have to call it off for the present.

Sincerely,



6/24/31,

Dear Fred.

Just saw your note. Drop me a line at the Baraboo address telling when you will come. Think that any day next week will be all right for me. Am leaving tonight

JOL



June 29, 1931

Mr. J. M. Wanamacher,  
General Delivery,  
Ableson, Wisconsin

Dear Joe:

Your card (undated) came last Saturday. Loyal Durand wants to drive up with me to look over the range for some geographic work.

I thought that despite the heat ( which feels worse than Illinois because damp) we would drive up this coming Wednesday afternoon.

If you care to meet us at the junction of Highway 113 and the road to the south end of Devils Lake between 2:00 and 2:30 we could then look over part of the east end. I cant just now see my way to coming up to the west end until a week from Saturday, July 11. Loyal will also come up with me then. I'm sure he wont bother us looking at geology for he has been out in the field with me for 11 weeks. Will tell you more about the argument with Ulrich then.

Hope you can stand the heat where now located. I recommend the tent in low ground for coolness at night!

Sincerely,



THIS SIDE OF CARD IS FOR ADDRESS



J. T. Thwaites

Science Hall

Madison, Wis



Dear Fred:

If you want to get in  
touch with me, address  
me at Ableman, Wis.  
Expect to be here a  
month or so. I'm living  
with a family named  
Geiser (or some such),  
~~sounds~~ like geyser.

J.M. Wannenmacher



July 8, 1931

Mr. Joe Wenemacher,

Ablemans, Wisconsin

Dear Joe:

I had a letter written and in this envelope ready to mail saying that we would be up Saturday when first one and then the other of my companions told me that they could not go. Think we will have to put it off until next Saturday unless you are very anxious to have me come sooner.

Sorry we missed connections a week ago. Loyal and I had a good trip through the east end. Found the Lower Magnesian and I think the Eau Claire below the Dresbach. Letter is in Fox Glen. <sup>W</sup>Got some good photos of <sub>F</sub>topography but it rained too much to get a good one of the Glen. There is a marked dip there. Plan to come up some afternoon next week with Loyal and will visit Durwards and Parfreys then. Please let me know if you want to meet us.

Am working on outline also on samples. Expect a lot from Iowa soon for the cross section of the U. S. Also changing screens on the house. Ike is starting to make over the "Cage" truck body into a trailer to use for an office when we go into the field.

Hope you are getting good results.

"incerely,  
"



Ableman, Wis  
July 1, 1931.

Mr. J. T. Thwaites.  
Science Hall  
Madison, Wis.

Dear Fred:

Received yours yesterday and intended to meet you today. Unfortunately I confused Hi-Ways 123 & 113 and went to the junction of camp road and 123. Soon realized my mistake and headed east across the mud road to 113.

That was just after the shower and it was very slick. I finally had to put chains on and didn't reach the rendezvous until 3:05. Perhaps the shower scared you out. Am living in a house here and have been beating the hot weather to some extent by starting for the field at 6:00 or earlier and taking a few hours off at noon.

Sincerely  
Joe



Ableman, Wis  
July 10, 1931.

Dear Fred:

Thanks for your note of the 8th.  
Sorry to hear that you will not be up this  
week. I have found a lot of interesting things  
which I know you will want to see, but  
there is no rush.

All I know about Fox Glen was <sup>though</sup> a  
brief visit we made one lunch hour while  
we were surveying there. My tentative idea was  
that the conglomerate marked the Duobach-Fran-  
conian contact. There are small brachiopods in  
the shale and that is one of the localities  
which Raasch and I shall visit together.  
I have found a few fossil horizons in the west  
end both within and north of the basin: most  
are in sandstones.

I certainly want to join you and Loyd,  
and hope I do better than the last attempt.

Sincerely

J. M. Wanenmacher



May 26, 1931

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I have received a set of samples from City well No. 3, Fulton Illinois drilled by Jos. Egerer of Milwaukee, Wisconsin, total depth 1943 feet.

Have you a duplicate set? Please advise me before I start on the examination of these.

Very few samples have come in this winter or spring although there is a lot of shallow well drilling on account of low water.

I have nothing in sight for the summer as yet but will have plenty to do here.

Had a visit from Wadell Saturday.

Very truly yours,

Geologist in charge of well records



Devils Lake

May 23, 1931.

Mr. J. T. Thwaites  
Science Hall  
Madison, Wis.

Dear Mr. Thwaites:

When I got the keys from Mr. Smith I mentioned that I intended to use the house as headquarters for the entire summer if possible. He told me that I would have to fix it up with the man in charge (Mr. Patterson, isn't it?). It seems that Patterson uses the house himself at times during the summer.

I hope you will be so kind as to get in touch with the proper party and find out the situation. It may be that if he wants to use it, it will only be for a few weeks and he would let me use it the rest of the season. Will appreciate whatever you can do about straightening out the situation and in the meantime I'll sit tight.

Sincerely

J. M. Wannenmacher

Address -  
Baraboo, Wis.



May 28, 1931

Mr. J. M. Wanenmacher,  
General Delivery,  
Baraboo, Wisconsin

Dear Joe:

I called up Mr. Harrington of the Conservation Commission today and he says that he will want to use the cottage this week end but will see that you are taken care of. Told him that as you had a tent along you could move out whenever necessary.

Hope you are getting along all right.

Sincerely,

P. S.

Please see that the cottage is not any worse than we found it when you leave!!



May 29, 1931

Mr. Hakon Wadell,  
Department of Geology,  
Rosenwald Hall,  
University of Chicago,  
Chicago, Illinois

Dear Mr. Wadell:

After you left my office last Saturday I found a pair of gloves on the chair where your hat was. Since nobody here has claimed them I presume that they are yours. If I am correct please write me and I will be glad to mail them to you. Or if you prefer will keep them until you come to Madison again.

Hoping to see you again soon,

Very truly yours,

Lecturer in Geology



University of Chicago, June 6th, 1931.

Dr. F.T. Thwaites,  
Dep. of Geology,  
University of Wisconsin,  
Madison, Wisc.

Dear Dr. Thwaites:

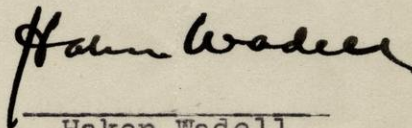
I thank you sincerely for the interesting visit I recently had at your department. I intended to return last week for a trip to Baraboo, but as the things now stand it has to be postponed for some time.

I am sorry you had the trouble of writing me about the gloves. They are mine, but please don't go to any trouble of sending them. They have done their service.

You will probably hear from me within a few weeks.

Thanking you, I am

Sincerely yours,

  
Hakon Wadell



5107 University Ave. Chicago, Ill., October 27, 1929.

Dear Dr. Thwaites:

Please accept my apologize for not having written to you before. - As a matter of fact I wrote you a letter on August 10, but it was never mailed for the reason that I wished to enclose a copy of my Vatnajökull article, which, however, was not available to me in the field.

I certainly appreciate your thoughtfulness of sending me a copy of your "OUTLINE OF GLACIAL GEOLOGY". I have studied the paper with great interest. Your bibliography has proved to be exceedingly valuable to me for my present writing on certain geological problems carried out during the past summer.

I understand that you and Mr. Byrne experienced the same pleasant impressions from the field work as I did. Some practical geology and much applied psychology.

I have the pleasure to send you my article on "VATNAJÖKULL". It is a summary of my investigations, and a review of our present knowledge of Europe's largest glaciated area. On account of high printing costs shortly after the war, the article was cut down almost to the half of the original manuscript, the reason why it appears somewhat poor in form.

In view of your special interest for glacial geology you may, perhaps, find some interest in the paper. Being the only copy left I am sorry I cannot give it to you, and I am obliged to ask you kindly return it by mail to my address given below. There is, however, a spacious review to be found in THE GEOGRAPHICAL JOURNAL (English) Vol. 58, No. 3, Spt. 1921, pp 243-245.

If you are interested you may keep the enclosed separate map.

It would be interesting to hear something of your geological studies of the past summer. There are a number of problems I would like to discuss with you. Hoping that this is not asking too much of you, I close,

Very faithfully yours,



---

Hakon Wadell  
5107 University Ave.  
Chicago, Ill.



Nov. 24, 1929

Mr. Haken Wadell,  
5107 University Ave.,  
Chicago, Illinois

Dear Mr. Wadell: I wish to thank you for your letter of Oct. 27 .  
I enjoyed reading the paper on Iceland very much and am returning it herewith  
along with a copy of my recent report on Vilas County. I kept the extra map  
and wish to thank you very much for it. You can keep the Vilas County  
report as I have a large supply.

I was in Chicago for the Wisconsin game and went over to Roscnwald  
Hall afterward but found nobody that I knew. Next day I telephoned to Bryne  
but did not get around to calling you. We had lots to do all the time for  
we went shopping and to the theater twice.

I expect to go back to the Illinois Survey next summer as my work in  
northern Wisconsin will not be resumed for a long time if ever. My class in  
Physiography keeps me busy. There are 26 students and we have made two field  
trips totaling nearly 600 miles travel.

With best regards,

Sincerely,



# WAYSIDE HOTEL

JOHN M. GORLIN, Proprietor

WALWORTH · WISCONSIN

April 21, 1931

Mr. J. J. Shwaites,  
Madison,  
Wisconsin

Dear Mr. Shwaites,

In reply to your letter about room and meals for Saturday night and Sunday morning, we will reply as follows:

Two in a room on third floor — \$1.50 or 75¢ per person.

Single room — \$1.00 per person.

Saturday night for supper I will serve a small T. bone steak with fried potatoes, rolls + butter, vegetable, dessert and coffee for 50¢ per plate. For breakfast I can serve for 50¢ each person:— Fruit, bacon and eggs, toast and coffee.

We hope this information will be satisfactory.

Very truly yours,  
J. M. Gorlin

(per. J.C.)



April 23, 1931

The Wayside Hotel  
John M. Gorlin, Proprietor  
Walworth, Wisconsin

Dear Sir:

In reply to yours of the 21st. We will arrive Saturday night and plan to have a supper by 7 o'clock. The menu suggested will be alright. We will need 5 rooms on third floor for the men (two in a room), one for myself alone, one room on second floor for the single lady of the party. The total number in the party will be 12.

I am also figuring on taking a lunch the next day and will bring a jug <sup>for</sup> of coffee and will have you put us up some sandwiches.

Menu for breakfast is also satisfactory.

Yours very truly,

*F. T. Thwaites*

F. T. Thwaites

FTT:N



MRS. THERON WASSON  
136 KEYSTONE AVENUE  
RIVER FOREST, ILLINOIS

April 20, 1931.

Mr. F. J. Thwaites,  
University of Wisconsin  
Madison, Wis.

Dear Mr. Thwaites  
your letter of April 18 was received  
this morning. I am sending you  
the sample of carbon to day. I am  
grateful to you for arranging to  
have the test made. Kindly thank  
Mr. Mead for me. The sample being sent  
is from 4463 + consists of the residue  
after having been washed with water  
+ H. Cl.

Very truly yours,  
Isabel B. Wasson



Science Hall,

Madison, Wisconsin,

April 20, 1931

Wayside Hotel,

Walworth, Wisconsin

Gentlemen:

I am bringing my class to your hotel one more this coming Saturday night, April 25. There are just 10 in the class but we may have several visitors. Only one girl is included in the list so far.

I desire to make a change this year and to have the same meal served to all. This will eliminate a lot of confusion and extra work for your help, as well as a lot of lost time for us. We will probably be rather late for supper.

In reply please indicate latest convenient hour for supper and earliest for Sunday breakfast as well as what prices you can make for rooms and meals. Some idea of a suggested menu for both supper and breakfast would be appreciated. I will ~~write~~ you what we select and include a list of those who are coming with roommates assigned.

Payment will as usual be made in lump sum.

Very truly yours,

F. T. Thwaites, Lecturer in Geology



940 Winona ave.,  
Chicago, Ill.,  
Nov. 15, 1930

Dear Mr. Thwaites:

Recently in discussing erosion with Mr. Bretz there was occasion to mention the cuervas in Wisconsin. Mr. Bretz, knowing that I had had my physiography under you and knowing your ideas, asked me to read Trowbridge's paper on the matter of the Dodgeville plain. (Iowa Studies-1921) He is convinced that Trowbridge's ideas are correct. I have read the paper but I do not find it convincing as to the presence of a plain.

Incidentally, Trowbridge points out that most of the work done was by individuals and later tells that his own work is based on the work of individuals, he himself having worked for a few days with Leverett. Another peculiar thing is that he correlates what I take to be the top of the Baraboo quartzite as part of the Dodgeville plain.

He mentions the following points which I take to be the most significant:

1. Beveling.
2. Connections between successive cuervas.
3. Lack of concentration of residual material on top of the cuervas.
4. Disharmony between structure and surface.

All save the last of these, it seems to me, are explicable in terms of erosional peculiarities. He points out that wind could not have eroded the higher formations but neglects to consider that the wind might have carried away material reduced by other factors. As to the last factor, it seems to me that Trowbridge has overestimated both the disharmony and the significance of it.

Trowbridge refers to Martin as saying that the lack of wedges of the St. Peter atop the edges of the Lower Magnesian cuesta is significant, Trowbridge making capital of the fact that such wedges have since been discovered. Are not these to be attributed to the great relief of the surface of between these two formations?

I shall greatly appreciate it if you will note briefly any objections to Trowbridge's more important points which I have overlooked.

Mae Reynolds  
Adams St  
1808 Rowley Ave.



I am enjoying my work at Chicago. I find that the approach to geology here is more classical than at Wisconsin. However, the practical work there, for me at least, followed by the work here is easier and better than the reverse would have been.

Sincerely yours,

*Randall Wright*



Nov. 19, 1930

Mr. Randall Wright,  
940 Winona Ave.,  
Chicago, Illinois

Dear Mr. Wright:

I was very pleased to hear from you and to learn that you are enjoying your work at the University of Chicago.

I thoroughly sympathize with you in thinking that Trowbridge's ideas on peneplanes are far from convincing. This fall I have been giving a course in Advanced Physiography. In this we made some studies of the upland plain of the Baraboo Range. I have advanced the hypothesis that a really level plain like this on such insoluble rock as quartzite could hardly be made by ordinary stream work. It is covered with residual clay from limestone in which there is much angular chert. The famous potholes are found not only on this plain but also nearly 70 feet lower in the side of a hanging pre-Cambrian valley. The gravels associated with them on top of the bluff are mixed with the aforesaid residual clay. The potholes were certainly made after the formation of the quartzite upland plain and before its cover of Black River dolomite was entirely removed. The water fell off something and this something must have been the dolomite which left the clay and unworn chert. The gravels are a mere local accident. See paper on the Windrow formation in Bull. C. S. G. vol. 32. I suggest that the plain is the product of marine erosion during the time of relatively deep water when the Black River and Galena dolomites were being formed. Such erosion could do such a perfect job. I find coarse boulder conglomerate just over the edge of the plain. By no stretch of imagination can I make this a relatively recent peneplane on which Blue Mound, composed of much weaker rock, stood as a monadnock!

I think that I pointed out last year that there is an exceedingly simple explanation of the beveling of the dolomites on the cuestas, namely that the crests have been much longer exposed to the weather than have the vales. Trowbridge is asking too much of us to compare the remaining thickness of dolomite on a small crag with that on a broad ridge recently stripped of its protective cover. He forgets that shale may protect dolomite from solution just as it can protect sandstone. Trowbridge never saw the Eau Claire Bench. He also knew little of the Franconia Bench or "Sparta Plain".

There are no connections between successive cuestas. The supposed one north of Prairie du Chien is confused by the striking variation in thickness of the Lower Magnesian group. You can follow the Magnesian upland down the sides of this ridge on the spurs. See new topographic maps. It would indeed be strange if such a residual should have persisted so close to two major streams!

Trowbridge's conclusion that there is a lack of residual material on the ridges is not in accord to data I obtained. If he had talked with well drillers he would have obtained an entirely different idea. If he had looked for quarry sites on the uplands he would also have reached a different conclusion. The residual material is actually very thick.



As to disharmony between structure and surface one of the principal indictments of the peneplane theory is the fact that there is nowhere a distinct and definite topographic unconformity between the valley sides and the upland. There is a break of slope but it is in all instances explicable on the basis of rock control. The topography of the uplands is just what we should expect on the basis of rock control. Nowhere can one stand on a remnant of an old surface, and say that he is on something not touched by the present cycle of erosion. The significance of the gravel and bog ore deposits has been explained by Twenhofel and me as not in harmony with the idea of low relief. The uplands are so thoroughly dissected that it is really impossible to compare their general level with that of the base of a formation. Trowbridge's three point computations are open to the objections that (a) the points taken are so chosen to support the theory and (b) the planes concerned are really warped surfaces and cannot be studied in such a manner.

If we think of the uplands as remnants of old surfaces the fact stands out that there is no difference between the upland on the cuesta crest, on the back slope, and in the vale. If we interpret any part of the upland as a remnant of an older topography we must then go back to the old theory of several peneplanes each of which happened to be situated on a resistant formation. This theory cannot possibly work for what would have happened to the older planes while each newer one was being formed? As a matter of fact there is no difference in degree of dissection of the several cuestas save what is easily explicable on the basis of present relief and rock control.

With regard to wind erosion it may be important to note that the loess rests upon residuum without any remnant of soil, at least I never found a buried soil in such a position.

The wedges of weak rock are just what I would expect under the single cycle explanation. They nowhere fill the gaps between cuesta crests. They simply represent recently uncovered areas of the weak beds. I will say again that the original irregularity of the thickness of the Magnesian (Prairie du Chien) group is a most confusing factor. The upland is much better developed on the Galena and Black River than north of Wisconsin River.

Attention should be given to the benches on the Franconia and Eau Claire shales.

Trowbridge's structure map is off by hundreds of feet in northwestern Wisconsin as your work last year showed conclusively. He has made too much of the La Crosse arch. The course of Mississippi River may have been in a vale in front of the escarpment of some long-vanished formation, possibly Devonian. We should never restore eroded strata with the same thickness as is known in the parts which have been preserved elsewhere as thicknesses vary.

Last year Folsom contoured the uplands of the entire Driftless Area and found that the thickness of dolomite is closely related to width of ridges and distance from main streams.

In conclusion I would like to say that I do not regard the theory of one peneplane disproved. I do think, however, that it is a long ways from being proved.

With best regards,  
Sincerely,



A young couple about to be married were looking for a house in the country. After satisfying themselves that they had found a suitable one, they started for home. During the return journey the young lady was very thoughtful and when asked the reason for silence, she replied "Did you notice W. C. anywhere?", meaning Water Closet. He not having noticed it wrote the landlord asking where it was situated.

The landlord did not understand what the W. C. meant and after thinking it over for sometime came to the conclusion that it meant Wesley Church. He replied as follows:

Dear Sir:

I very much regret the delay in replying to your letter, but I now have the pleasure of telling you the W. C. is situated about 9 miles from the house and is capable of seating about 2,000 people.

This distance is unfortunately far, but if you are in the habit of going regularly, you will be glad to know that a great many people take their lunch with them and make a day of it. Others that cannot spare the time take cars arriving there just in time. The last time my wife and I went was six years ago, and we had to stand up all the time. I may mention that it pained me not to go oftener. It may also interest you to know that a Bazaar is to be held to furnish the W. C. with plush seats as this has been a long felt want.



BELOIT COLLEGE  
BELOIT, WISCONSIN

GEOLOGY

February 26, 1931.

Dr. Thwaites,  
Dept. of Geology,  
University of Wisconsin,  
Madison, Wis.

My dear Dr. Thwaites:-

I have received your bulletin on Photography and wish to thank you for it. This, I am sure, will be a great deal of help to me.

A considerable part of the pleasure of my trip to Toronto came from meeting and visiting with you and the other men from Wisconsin.

Yours very truly,

Monte E. King.



# **WATER WORKS ENGINEERING**

*The Journal of the Water Works Profession Since 1877*

WESTERN OFFICE  
30 NO. MICHIGAN AVE.  
CHICAGO, ILL.

24 WEST 40th STREET  
NEW YORK CITY

Jan. 12, 1931

Mr. F.T. Thwaites, Geologist,  
Geological & Natural History Survey,  
Madison, Wis.

Dear Mr. Thwaites:

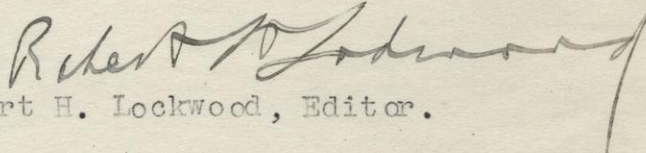
Thank you very much for the copy of your paper  
on "Your Well Samples and How Kept", presented before  
the Wisconsin Well Drillers Association convention.

We have placed this in our files for future use  
in WATER WORKS ENGINEERING.

With kindest regards, we are,

Cordially yours,

WATER WORKS ENGINEERING



Robert H. Lockwood, Editor.

RHL:FS



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Madison, Wisconsin

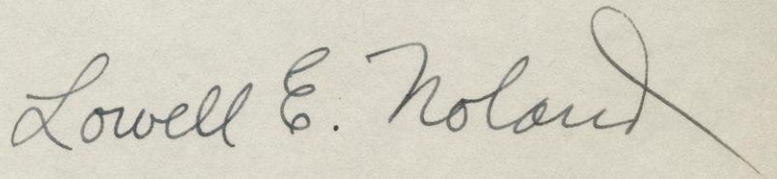
October 21, 1930

Professor F. T. Thwaites,  
Science Hall.

My dear Professor Thwaites:

The enclosed letters were sent in care of the Academy to the men whose names appear on the face of each. Since I do not know the addresses of these men, and since Professor Juday informs me that you probably do know where they now reside, I am sending the letters on to you with the request that you forward them to the proper addresses. Thanking you for attending to this matter, I am

Sincerely yours,

A handwritten signature in cursive script that reads "Lowell E. Noland". The signature is written in dark ink and is positioned above the typed name and title.

Lowell E. Noland, Secretary-Treasurer,  
Biology Bldg., University of Wisconsin.



Sept. 29, 1930

Mr. M. G. Winter,  
Altamont, Illinois

Dear Mr. Winter:

I am sending you a copy of the picture taken at the Mahon quarry last summer. I thought that this might be interesting to you.

We concluded our work on Sept. 10 and I am now back at work here. I hope you were able to secure the second hand machinery which I located.

With best wishes,

Very truly yours,

F. T. Thwaites



Dec. 26, 1929

Dr. Paul Woldstedt,  
Bezirksgeologe a.d., Preuss. Geol. Landes-Anstalt,  
Invalidenstrasse 44, Berlin N.4  
Germany

Dear Dr. Woldstedt:

I wish to thank you for your letter of November 29 and the copy of Das Eiszeitalter both of which arrived a short time ago. My wife and I have been reading the book with much interest. I find that my knowledge of German comes back to me as soon as I begin to read. I am glad you were able to use one of my photographs. I am sure that I will find the book of great help to me.

My work in northern Wisconsin has been discontinued for an indefinite time on account of political changes which affected the Highway Commission by removing the State Geologist from it. Last summer I worked in Illinois on the same kind of a survey and I expect to return there next summer.

I am teaching Physiography of the United States at the University taking the place of Dr. Lobeck who has gone to Columbia University at New York. This I find interesting but it keeps me very busy. In 1930 I will also teach Glacial Geology and Mapping as in former years. I am also working on records of deep wells.

We celebrated Christmas with my wife's grandmother who was born in Germany over 80 years ago. My wife and I are both very well.

With best wishes for the New Year, from both of us.

Sincerely,

Geologist



29. 11. 29.

Herrn Dr. F. T. Thwaites

Madison, Wis.

Lieber Doctor Thwaites,

Vor einigen Tagen sandte ich mein neues Buch „Das Eiszeitalter“ an Sie ab und hoffe, dass es richtig in Ihre Hände gelangt ist. Nehmen Sie es bitte als Zeichen meines herzlichsten Dankes für die freundliche Aufnahme und Unterstützung, die ich bei meiner Reise durch Sie fand. Ich denke noch mit großer Freude an unsere Fahrt durch Wisconsin, auf denen ich viel Schönes und Interessantes sah.

Dass ich eine Photographie von Ihnen in meinem Buche reproduziert habe, damit sind Sie hoffentlich einverstanden. Ich möchte Ihnen auch noch bestens danken für die Lichtbilder, die Sie mir im letzten Winter schickten und die ich sehr gut bei Vorträgen gebrauchen konnte.

Ich hoffe immer, dass ich noch einmal wieder nach Amerika kommen kann, vielleicht zum Kongress in Washington 1932. Aber es wird natürlich immer schwierig sein, das Geld dafür zusammenzu-



zu bekommen. Und wie steht es mit Ihnen? Werden  
Sie nicht mal eine Reise nach Europa machen? Sollten  
Sie das einmal vorhaben, so schreiben Sie bitte rechtzeitig  
an mich, damit ich Ihnen dann etwas von Norddeutsch-  
land zeigen kann.

In der Hoffnung, dass es Ihnen und Mrs Thwaites  
gut geht, bin ich

mit freundlichen Grüßen

Ihr sehr ergebener

Paul Woldstedt.



V. E. MONNETT  
C. E. DECKER  
A. J. WILLIAMS  
S. WEIDMAN  
G. E. ANDERSON  
F. A. MELTON

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MINERALOGY  
METEOROLOGY  
GENERAL GEOLOGY  
GENERAL GEOLOGY  
GENERAL GEOLOGY  
PALEONTOLOGY

Feb. 2 1929

Mr. Fred. T. Thwaites  
Madison, Wis

Dear Mr. Thwaites:

I want to thank you very  
much for your valuable paper on the  
"Pre-Wisconsin Terraces of Wisconsin".

Yours very truly,

S. Weidman



# Hotel Oak Manor

211 N. OAK PARK AVENUE

TELEPHONE VILLAGE 7400

OAK PARK, ILLINOIS

April 13, 1930.

Dear Prof. Thwaites,

I was so rushed on Saturday that I was unable to get to Science Hall at all, as I had planned, to go over my exam papers. I expect to be in Madison in three or four weeks and can see you then unless you'd have time to drop me a note about it. I'm afraid I had forgotten pretty much but I hope not too much -

I hope your Devils Lake field trip was as successful as your trips all are -

Very sincerely,

Dolly Winchell



Science Hall,

University of Wisconsin,

Madison, Wisconsin

Oct. 13, 1930

John Wiley and Sons, Inc.,

440 Fourth Ave.,

New York City

Attention Mr. R. M. Triest  
Manager, Educational Department

Gentlemen:

I wish to thank you for the complementary copy of Bowman's "Forest  
Physiography" which has just arrived in good condition.

Very truly yours,

F. T. Thwaites, Lecturer in Geology



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October 9, 1930.

Professor F. T. Thwaites,  
Department of Geology,  
University of Wisconsin,  
Madison, Wisconsin.

Dear Professor Thwaites:

We have your request of the 29th and we take pleasure in sending you a copy of Bowman's "Forest Physiography," with our compliments. We trust that it will reach you promptly and in good condition. May we ask you to advise us of its safe arrival?

Very truly yours,

JOHN WILEY &amp; SONS, Inc.,

*R. M. Triest*

Manager,  
Educational Department.

TK.



THE MUNICIPAL  
UNIVERSITY OF WICHITA  
WICHITA, KANSAS

Jan 25, 1933.

My dear Professor Thwaites:-

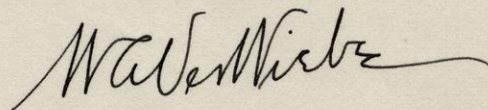
Your letter of the 19th has reached me.

I note what you say regarding the illustrations for your book. The sample you sent looks very good to me. I feel that they would be of great benefit to me in teaching the course and therefore am willing to subscribe to about 10 sets at a price of approximately 50 cents a set. I do not know yet whether I shall have a large class or not. In any event there will not be over ten. I hope you can get a few others to go into this proposition with you so that the expense will not be greater than the income. Of course, I realize that you may not want to go through with it unless you get enough subscribers and will not be surprised if I do not get the ten sets later.

I believe too that <sup>+</sup>printing would make your book much more attractive to other schools. Still, if printing is not feasible, then the lithoprinting is far better than nothing at all.

Hoping that you can soon see your book used in many schools as it should be, I remain

Very cordially yours,





Feb. 9, 1933

Prof. W. A. VerWiebe,  
University of Wichita,  
Wichita, Kansas

Dear Prof. VerWiebe:

In reply to yours of Jan. 25 I have looked into the cost of reducing the illustrations for my intended text of glacial geology.

I find I can get out of the project with the minimum investment if I have photostate negatives made and then blue-line prints of these. The text will be run on ordinary mimeograph machine here. If this is satisfactory to you I can supply you ten (10 sets) at 50 cents each plus transportation.

We have been unable to finish typing the text as I have been bending every effort to finish my New York report. The governor is to cut the University 25 per cent of an already "minimum" estimate and then can if he desires order another 20 per cent of that taken off next year. Just what that means to use we can't tell yet but it does not encourage one much to think about it!

Sincerely,



THE UNIVERSITY OF NEBRASKA  
LINCOLN

CONSERVATION AND SURVEY DIVISION  
OFFICE OF DEAN AND DIRECTOR

February 14, 1933

RESEARCH AND SURVEY ACTIVITIES

GEOLOGICAL SURVEY  
SOIL SURVEY  
WATER RESOURCE SURVEY  
FOREST AND WILD LIFE SURVEY  
CONSERVATION SURVEY  
INFORMATION BUREAU

Prof. F. T. Thwaites,  
University of Wisconsin,  
Madison, Wisconsin.

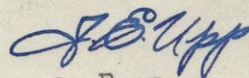
Dear Sir:

Doctor Condra asks that I express to you his sincere hope, together with that of the Department of Geology instructional staff, that we may have the pleasure of meeting with you during the program of the American Association of Water Well Drillers convened in Lincoln, February 21-23.

A copy of the program is enclosed herewith.

With best regards, I am

Very truly yours,



J. E. Upp,  
Geologist.

JEU\*GWD



THE MUNICIPAL  
UNIVERSITY OF WICHITA  
WICHITA, KANSAS

Jan 15, 1933.

Dear Friend Thwaites:-

Your very kind letter has reached me. I thank you for letting me reproduce some of your pictures and also guarantee that you will not lose the full copyright control over them.

I am very glad to hear that the work on the Glacial Geology book is going forward. I give a course in that subject this coming semester and each time, I regret that we have no good textbook. It is so much easier for student and teacher when a textbook can be used to furnish a basis for discussion. Here is hoping that yours will appear soon and in printed form. However, the method of lithoprinting which you are no doubt familiar with is a splendid substitute. The Edwards Brothers in Ann Arbor do a lot of it now and will send you illustrations if you do not have them yet. The price also is very low.

I am sorry to hear that you will not be able to attend the International Congress. I hope to take in both the preliminary trips and the succeeding trips across the continent. I may take the glacial trip and then have a chance to have a pleasant chat with you again.

Very cordially yours,

*Walter Allen Misk*



THE MUNICIPAL  
UNIVERSITY OF WICHITA  
WICHITA, KANSAS

Jan. 5, 1933.

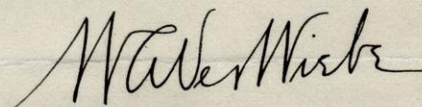
Dear Friend Thwaites:-

How is the new year starting at the Univ. of Wisconsin?  
I imagine you have more graduate students this year than ever  
before. Among them are two old friends of mine by the name of  
Boos. They are both hard workers and exceptional people.

The reason for my writing at this time is to ask  
whether you would have any objection to my using several<sup>a</sup> of the  
photographs you made on the Fifth Annual<sup>a</sup> Field Conference. I have  
written a book on the subject ~~xx~~ of HISTORICAL GEOLOGY which I  
hope some publisher will publish. If and when this happens I  
should like to reproduce about three of the photographs you sent  
me after the conference was finished. These pictures are very  
fine and illustrate some phenomena very well.

Hoping that you are in the best of health and  
looking forward to seeing you on the occasion of the International  
Geological Congress, I remain

Very cordially yours,





Jan. 10, 1933

Professor W. A. VerWillebe,  
University of Wichita,  
Wichita, Kansas

Dear Professor VerWillebe:

In reply to yours of the 5th it will be all right to use any of my photographs if you give credit in the titles. I am glad they will be of value to you. I think that if credit is given my use of the pictures (supposing that I ever should want to publish any of them) would not be impaired by your copyright.

We have the usual number of students here, all, I think, working harder on account of the well-known Depression. I have not met either of the Boos' as they are not taking any work with me.

The Glacial Geology text is still in progress. I finished the illustrations and sent the maps to Leverett for criticism. He returned them and I then forwarded them to Leighton but have had not had any reply so far except that he received them. Mrs. Thwaites has been unable to finish the typing and then Dr. Leith thought that it ought to be printed rather than mimeographed. This has left the matter undecided. But with librarys not buying and with one salary cut already and another still larger (at least 25 percent) in prospect, not to mention doubled income taxes I do not feel in a position to go any farther with the matter now. But we will hope for the best in 1933!

I spent the summer working in New York State. The problem I was on proved to be one of Sanitary Engineering rather than Geology and my report will be of more interest to the medical profession than to the geological. In fact, I now feel quite at home with salamanders, bacteria, and so forth! Incidentally, this job helped hold off the worst of the Depression until some time in the future.

We are now all well, although we all had bad colds just before Christmas. I will not be able to afford to go to Washington but hope to go on a part, at least, of the glacial geology excursion through Wisconsin. I am scheduled to be a guide on that trip in this state.

Please remember me to the others who I met in your city. Had a letter from Folger a short time ago.

With best wishes for 1933,

Sincerely,



Jan. 19, 1933

Prof. Walter A. VerWiebe,  
University of Wichita,  
Wichita, Kansas

Dear Prof. VerWiebe:

Your letter of the 15th has put me to thinking. If you are giving a course in glacial geology might your students not like sets of the illustrations for my proposed book? I intend to teach this year with such sets accompanied with mimeographed descriptions and some copies of the old text in the library. Now if I only want a few, and my class will not be over 10, I would have to blueprint the 40 pages of illustrations similar to the sample at cost of  $2\frac{1}{2}$  cents a page or \$1.00 per set without a lot of my own labor in trimming and binding. Now if others might want sets I might get the drawings photographed down by Edwards Brothers in a way to make the whole come to 20 pages including descriptions. Cost of these at retail could not exceed 50 cents a set, but I would have to get others interested in order to get back even a part of the sum I would have to lay out for 100 copies. I am familiar with Edwards Brothers work and almost the whole book is now typed on their master sheets. Dr. Leith thought, however, that printing would be much better for libraries do not like to buy these large size and poorly bound books. In view of inevitable severe salary cuts I cannot see my way to publication in any form for an indefinite period.

Will be glad to hear if you think the above alternative might work.

Sincerely,



October 12, 1933

Mr. L. P. Daniels  
The Hotel Witter  
Wisconsin Rapids, Wisconsin

Dear Mr. Daniels:

In reply to yours of the 11th, our party will arrive Saturday shortly after dark. I forgot to state that we would like the same meal served to every one both for dinner and breakfast. Payment for rooms and meals will be in a lump sum, made by the Treasurer of the party.

For our Sunday lunch, I will have you put up two sandwiches each and fill our jug of coffee. We supply the cream and sugar and cups.

Very truly yours,

T:N

F. T. Thwaites



Oct. 7, 1933

Mr. L. P. Daniels, Prop. and Manager,  
The Hotel Witter,  
Wisconsin Rapids, Wisconsin

Dear Sir:

In reply to yours of Nov. 1, 1932 soliciting our business when coming to Wisconsin Rapids again I wish to say that I expect to bring my class there a week from today, that is the night of October 14. The class is much smaller than formerly. It includes 6 boys who will go two in each room and one lady who will be accompanied by her husband. This will make three rooms without bath and two with bath (one for myself). We would also want supper, breakfast, and a lunch put up for Sunday noon on our return. According to program of last year we would arrive soon after dark, arise early Sunday and make a trip to the north, return for breakfast and then leave for home around 9 A. M. Sunday.

I will be glad to get your rates. As everyone is hard up this year I am forced to make every effort to keep expenses down to the minimum.

Very truly yours,

F. T. Thwaites, Lecturer in Geology



June 3, 1933

Mr. F. P. Hyer, Manager,  
Wisconsin Hydro Electric Company,  
Amery, Wisconsin

Dear Sir:

In reply to yours of May 29 I will be free to make a survey of water supplies around Hurley either the latter part of this coming week or at any time after the middle of the following week. In the past it has been the custom to do this kind of work for the expenses only but as a result of the recent cuts in appropriations neither the University nor the State Geological Survey has any funds for my time. I usually charge at the present time \$25 per day and carry my own expenses out of this. For this job with a long journey out and back I suggest a lump sum of \$200.00 for the job including expenses and preparation of a report. It is understood that such a report will cover the possible sources of water which seem possible and will attempt no definite estimates of cost of development.

My personal preference would be to do this work some time between June 15 and June 30.

Very truly yours,

F. T. Thwaites



# WISCONSIN HYDRO ELECTRIC COMPANY

AMERY, WISCONSIN

May 29, 1933

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

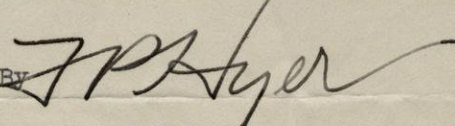
Dear Sir:

While at a recent conference with representatives of this company, Mr. O. J. Muegge of the State Board of Health recommended that we secure the services of a geologist to investigate the possibility of securing a ground water source of supply for the City of Hurley.

In this connection Mr. Muegge mentioned you as being particularly well qualified for determinations of this sort; and we are now writing to ask whether you might be available in the near future, and what your customary charges are for this type of work.

Yours very truly,

WISCONSIN HYDRO ELECTRIC COMPANY

BY 

F. P. Hyer  
Manager

FPH:KF

*#201 on 25 day  
no exp.*

*within 3 mi. V.W. line pds - change was expense time  
Est. 200 job*



Wisconsin Academy of Sciences, Arts, and Letters  
Madison, Wisconsin

February 6, 1933

To the Members of the Academy:

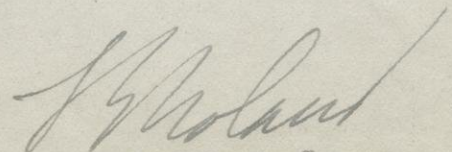
You will recall that the Wisconsin Legislature two years ago reduced the annual appropriation to the Academy from \$1500 to \$1000. By increasing our dues, by financial assistance from some of our authors, and because of some decrease in printing costs, we have been able in spite of the decreased appropriation to maintain our Transactions at about the same level of quantity and quality as in previous years. The secretary last spring conducted a campaign for new members and succeeded in adding some 70 new names to the list; but the economic situation has resulted in a disproportionate loss of members, so that we now have fewer members than we had a year ago. Another attempt will be made this spring to increase our membership, and the support of all our old members is earnestly requested in this undertaking.

The new governor in his budget recommendations has suggested the continuation of the \$1000 annual appropriation. The value of the Academy library and exchanges, the danger of losing exchanges if publication is reduced, and our active cooperation have been appreciated by the governor and his committee in deciding upon their recommendation. It is very evident, however, that if we do not do everything in our power to keep up the service of the Academy to the state, we will not be able to retain the state's support. Our income aside from the state appropriation is derived almost entirely from dues. It is therefore important that we maintain and, if possible, increase our membership. Will you not cooperate by mentioning the Academy to some friend who might be interested? A folder showing the content of our last volume of Transactions and a nomination card are enclosed.

The Academy will meet in Madison next April in the Biology Building of the University. We hope it will be possible for you to attend. We are planning this year a new feature in the program, namely, demonstrations of researches by members who wish to display their material. Space and facilities will be provided for showing charts, geological, archeological, botanical, zoological material, photographs, art work and the like. Please think over what you might have in the way of research material of interest to your fellow workers, and plan to display it at the meetings. Let us make the annual meetings of the Academy an increasingly interesting and valuable contribution to the intellectual program and activities of the state.

The statement of your annual dues is enclosed.

Sincerely yours,



Lowell E. Noland, Secretary-Treasurer,  
Biology Bldg., University of Wisconsin.



TO THE WISCONSIN WELL DRILLERS.

Well Friends we have lived through 1933 and we all hope this year will be better for us all.

The Association Convention, as you will see by the enclosed Program, will be held February 13th. and 14th. at the Retlaw Hotel, Pon du Lac, Wis. Please come and make this Convention a success.

This is your Association and Convention. The officers and Directors want to do their best for the profession as a whole. If you have any suggestions to make they will be very much welcomed, I assure you.

Have you had any difficult problems arise in your business which you need some help in solving? If so come to the convention this year and someone there will answer them for you. We have allowed sufficient time for those matters.

The DRILLERS LICENSE LAW has been rewritten and will be presented to the drillers on the first evening. COME to the CONVENTION and find out all about this law. If you are opposed to the license law be sure to come and find out the true merits of this bill, bring your objections with you and be sure to state them at the meeting.

The Association is going to prepare a bill for the exemption of well drilling equipment from truck and trailer license. Just take a pencil and paper and figure out how much this will save you per year, you can come to the convention and still have some money left.

WE NEED YOUR SUPPORT, Come TO THIS YEARS CONVENTION.

If you have not paid your dues, help us by sending your THREE DOLLARS, for annual membership dues, to the Secretary.

The drillers of this state can not say the Association is not of any benefit to them, considering the things we are now doing for you. Come join the Association and help the good cause along.

Hoping to see you at the Convention, I remain

Yours very truly,

Wis. Well Drillers Assoc.

*H. A. Butler*

Sec'y.



WISCONSIN WELL DRILLERS ASSOCIATION

1933 CONVENTION PROGRAM.

Retlaw Hotel, Fon du Lac, Wis. February 13th. and 14th.

Monday, February 13 th.

8:00	8:30	Registration
9:30	9:45	Address of welcome and response
9:45	10:30	What the future holds for the Driller by F. T. Thwaites, State Geological Survey. E. Walch, Armstrong Mfg. Co. A. Lageson, R. R. Howell & Co.
10:30	11:00	How to use your Local Paper.
11:00	11:00	Radio Advertising.
		Afternoon Session.
1:30	1:45	Registration.
1:45	3:15	A Consulting Geologist Duty while drilling a Well, by Rufus H. Bagg, Geologist.
2:15	3:15	Burying the Hatchet, by H. Osmanson, H. D. Hudson Co. H. Williams, Edw. E. Johnson Inc. J. W. Veitch, Vice President, W. W. D.A. Open Discussion
3:15	3:45	Relationship between Wisconsin Geological Survey and Well Drillers, by E. P. Pean, State Geologist.
3:45		Round table discussion.
6:30		Banquet. Jerry Fox, LICENSE LAW, F. King.

Tuesday, February 14th.

9:00	9:15	Registration
9:15	9:45	Uniform Contracts
9:45	10:45	Drilling Machine and Ton Tax License.
10:45	12:00	Annual Meeting
1:30	3:00	Trip through City Sewage Disposal Plant.





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REGISTRATION AND EDUCATION  
M. F. WALSH, DIRECTOR  
SPRINGFIELD

STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

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URBANA

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DEAN CHARLES M. THOMPSON

December 13, 1932

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Thank you very much for the blue prints sent  
in your letter of December 3. I have been out with the  
flu and have been unable to acknowledge these sooner.  
Inclosed are stamps covering the cost of having them made.

With best wishes,

Yours very truly,

*L. E. Workman*

Associate Geologist  
Subsurface Division



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GEOLOGICAL RESOURCE SECTION

URBANA

November 15, 1932

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Thank you very much for the list of wells in Illinois for which you have tracings at the Wisconsin Geological Survey. We have checked over the list and find that we do not have on file the following blue prints:

Chicago	Wilson Packing Company
Chicago Heights	Public Service Company of No. Illinois
Golf	Glen View Club
Rockford	Park well

We would appreciate your sending these to us and would be glad to pay the cost for having these prints made.

I am giving the copy of this list to Mr. Gerber of the State Water Survey who will check them over with his logs and probably write to you direct.

Very truly yours,

*P. E. Wokeman*

Associate Geologist  
Subsurface Division



Wells in Illinois with tracings of logs on file  
with Wisconsin Geological Survey  
Nov. 7, 1932

City	Designation
Aloda	No. 2 city
Bensenville	Twin Orchard Country Club
Buda	Village
Chicago	Wilson Packing Co.
Chicago Heights	Public Service Co. of Northern Illinois
Des Plaines	St. Marys Academy
Des Plaines	Croatian Orphanage
Des Plaines	E. S. Beck
Eola	Public Service Co. of Northern Illinois
Everett	A. D. Lasker
Floosmoor	Floosmoor Lodge
Fulton	No. 3 city
Glenview	North Shore Country Club
Glenwood	Glenwoodie Country Club No. 1
Glenwood	Glenwoodie Country Club No. 2
Golf	Glen View Club
Grays Lake	Village
Hillside	Mt. Carmel Convent
Hinsdale	No. 4 city
Itasca	Nordic Country Club
Joliet	Mens Dept, Joliet Penitentiary
Lake Forest	Paul Mewellyn
Lake Forest	Ogden Armour
LaGrange	Public Service Co. of Northern Illinois, No. 3
Libertyville	Katherine Kneight Budd Memorial Home for Children
Libertyville	Ascension Convent
Lombard	No. 2 village
Morton Grove	Poehlman Bros.
Proviso	C. and N. W. R.R. Freight House
Rockford	Park well
Rockford	East Side city
Rockford	Birks Nursery
South Chicago	No. 3 Illinois Steel Co.
South Chicago	No. 2 Illinois Steel Co.
South Chicago	John Mohr and Sons Co.
Statesville	Penitentiary
Waukegan	Greiss-Pflager Tanning Co.
West Chicago	C. and N. W. R. R. No. 2
Wheeling	Columbia Country Club No. 1
Wheeling	Columbia Country Club No. 2
Wheeling	Village
Wells in Illinois with both tracings and samples on file in Madison	
Area	St. Marys Seminary No. 1
Area	St. Marys Seminary No. 2
Chicago	Burke and James
Elmhurst	City
Ladd	village test hole
Maywood	U. S. Veterans Hospital
Morrison	city
North Chicago	Abbott Laboratories
Rockford	No. 8 city
St. Charles	city



Dec. 3, 1932

Mr. L. E. Workman, Associate Geologist,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

Enclosed please find the blueprints requested in your letter  
of Nov. 15, viz:

Chicago, Wilson Paving Co.  
Chicago Hts., C. I. P. S. Co.  
Golf, Glenview Club  
Rockford, Park ( Golf club southeast of city)

The cost of these prints was 23 cents as per enclosed  
bill. Owing to the hard times here I will have to accept your offer to  
pay this. Stamps, if unperforated will do. I paid it out of my own pocket  
to avoid red tape.

I have not heard from Mr. Gerber up to date.

Very truly yours,

Geologist in charge of well records,  
Wisconsin Geological Survey



Nov. 7, 1932

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

In reply to yours of the 25th I am enclosing the list asked for. I am positive that you have (or had) blueprints of all of these.

Several years ago Mr. F. M. Gray sent the Water Survey blueprints of all the wells he had drilled in Illinois. At that time he desired that the casing logs be omitted so we cut off that part of the prints. This data is confidential or at least it was then. I should not care to send out any of these prints without consulting Mr. Gray. Gray drilled the bulk of the Illinois wells of which I have records.

The drilling up here still keeps me busy. Just made two trips down to Hartland to see about test holes for shallow production. However, there are few new deep holes being started. I am now making a tracing for a 5900 foot test in Michigan drilled by Egerer.

I get the Illinois Well Driller regularly and wish to thank you for it.

We are working on the glacial geology text despite adverse comments and the well-known Depression. Incidentally my magnificent salary of \$35 per month for doing well record work has been reduced to \$23! Nevertheless we are trying to carry on and pretend we do not notice it.

Tommy is growing and can now walk up the stairs alone when he goes to bed. Soon he will be wanting to go along with me into the field I expect. He went to Hartland both times with us at that.

Very truly yours,



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GEOLOGICAL RESOURCE SECTION

URBANA

October 25, 1932

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

The State Water Survey is desirous of obtaining a blue print of every well for which they have a report in their files, and we would like to check up on our logs to see if we have blue prints of all of the wells in Illinois which you studied. Would you be so kind as to send us a list of all wells in Illinois for which you have blue prints, if this is not too much trouble? The State Water Survey would be glad to pay the cost of getting blue prints of all those wells which they do not have and in which they are interested.

There is not much drilling in Illinois. The Layne North Central Company is drilling for the Wander Company at Villa Park and the Sewell Well Company is about to deepen the Oglesby well from the St. Peter to the Dresbach. These are all the deep ones now drilling. However, we still have lots of work on cuttings from the wildcat oil wells. We are sending the Illinois Well Driller out now and if you do not get a copy please let me know.

With best wishes,

Yours very truly,

*R. E. Workman*

Associate Geologist  
Subsurface Division



Sept. 27, 1932

Dr. Samuel Weidman,  
Department of Geology,  
University of Oklahoma,  
Norman, Oklahoma

Dear Dr. Weidman:

I wish to thank you for the copy of your recent report on the Miami-Picher Zinc-Lead District, Oklahoma. I have read this with much interest. It would seem that evidence of intrusions in the Paleozoic rocks is increasing although I haven't yet been able to prove that there is one at Glover Bluff, Wisconsin.

I spent the summer working on water supplies in western New York.

With best regards,

Sincerely,



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GEOLOGICAL RESOURCE SECTION

URBANA

July 13, 1932

Mr. F. T. Thwaites  
Allegany School of Natural History  
Quaker Bridge, New York

Dear Mr. Thwaites:

I wish to acknowledge receipt of your letter of July 11 regarding sample sacks for the well to be drilled on the estate of James Simpson, Jr., at Milbourne. We have already sent these sacks and log books. We have also stated to the Gray Milaeager Drilling Company that they may save trouble at the rig in keeping two sets of samples by saving only one set and sending ~~it~~ to you or to me at the completion of the well, ~~as~~ they prefer. I shall be very glad to furnish you with the log if he sends it to us.

I am glad to hear of the opportunity that you have to study ground water in the vicinity of Quaker Bridge during the summer. It must be a beautiful country and it is too bad that Mrs. Thwaites and Tommy cannot be with you.

With best wishes,

Sincerely yours,

*D. E. Workman*

Associate Geologist  
Subsurface Division



Quaker Bridge, N. Y.,  
July 11, 1932

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I have at hand a request for sample bags and record book for a deep well at the country home of James Simpson, Jr., Milbourn4, Ill. The driller is E. H. Smith for Gray-Milaeger Drilling Co.

Can you please attend to this as I am unable to look after out-of-state jobs any more.

I am working on underground waters here this summer so can stave off the worst of the Depression for a bit longer. My family could not come because we thought that Tommy was too young for travel and life in this cool and moist climate. As a result I have a family cabin all to myself and it is mighty lonely.

With best regards

Very truly yours,



**BEAUTIFUL WAUKESHA  
WISCONSIN**

FAMOUS FOR ITS WATER  
AND HEALTH  
HOMES, INDUSTRIES, REST  
AND RECUPERATION

THREE RAILROADS, CHURCHES  
COLLEGE AND SCHOOLS

CAPITAL OF DAIRY INDUSTRY

WRITE FOR BOOKLET

# CITY OF WAUKESHA

Water Department



H. E. BLAIR, PRESIDENT  
E. E. HOWARD, SECRETARY  
A. P. KURANZ, SUPERINTENDENT

**WATER COMMISSIONERS:**

H. E. BLAIR  
E. E. HOWARD  
J. G. LAING  
M. R. BUTLER, MAYOR  
F. L. ROBERTS, COUNCIL MEMBER

WAUKESHA, WIS.

August 1, 1932

Professor F. T. Thwaites  
Dept. of Geology, Science Hall  
University of Wisconsin  
Madison, Wisconsin

Dear Professor:

I received your note relative to the tubes for Moorland Avenue and Baxter Street wells, and last Friday we issued a check in the sum of twenty dollars (\$20.00) for these.

I am planning on driving down to Madison sometime this week, if I can possibly make it, and bring them back with me unless you think it better to send them express.

Very truly yours,

*A. P. Kuranz*

Superintendent

WAUKESHA WATER DEPARTMENT



July 19, 1932

Mr. A. P. Kuranz,  
Superintendent of Water Works,  
Waukesha, Wisconsin.

Dear Sir:

I am inclosing a blue print log of the Baxter  
Street well.

The tubes are now ready. The charge for each  
is ten dollars (\$10.00).

Yours very truly,

Geologist in charge of well records  
Wisconsin Geological Survey

DMT

Received payment 20<sup>00</sup>  
Aug 21 1932 A.M.T.



STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

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GEOLOGICAL RESOURCE SECTION

URBANA

July 8, 1932  
July 8, 1932

COPY

Mr. F. M. Gray, Jr., President  
Gray-Milaeger Drilling Company  
161 West Wisconsin Avenue  
Milwaukee, Wisconsin

Dear Mr. Gray:

In accordance with your request of July 5 addressed to Mr. Thwaites, a copy of which you sent to us, we are sending you under separate cover 200 sample sacks and two log books for use in saving sample cuttings from the well to be drilled on the James Simpson, Jr., Estate near Milbourne.

Should you wish to save time and trouble on the part of the driller in collecting these samples so that only one set of samples need be collected it will be perfectly alright for you to send the set at the completion of the well, either to Mr. Thwaites or to myself for study. Mr. Thwaites always sends his Illinois samples down to us after he has looked them over. Should you wish to send them to us first we shall be very glad to furnish Mr. Thwaites with our description and blue print. I trust that samples will be taken in your usual careful way at intervals of five to ten feet.

With best wishes, I am

Yours very truly,

*D. C. Wolsman*

Associate Geologist  
Subsurface Division



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STATE UNIVERSITY  
DEAN CHARLES M. THOMPSON

September 28, 1931

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

In accordance with your letter of September 23:


We are supplying sample sacks to Mr. R. E. Pierce  
who is drilling the well for the E. J. & E. Railroad at  
Ingallton.

Yours very truly,

*L. E. Woleman*

Associate Geologist  
Section of Subsurface Studies



  
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DEAN CHARLES M. THOMPSON

August 3, 1931

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Thank you for the description and blueprint  
log of City Well No. 3 at Fulton, Illinois.

Yours very truly,

*L. E. Workmen*

Associate Geologist  
Section of Subsurface Studies



Aug5, 1931

Mr. L. E. Workman,  
Associate Geologist,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I have a request from the Gray-Milaeger Drilling Co. of Milwaukee for sample bags for a 2000 foot hole at Elgin. Address: John Mayer, Elgin Apts, 224 Jefferson St., Elgin, Illinois Also a 300 foot well at East Moline, to be sent to A. Berta, East Moline State Hospital, East Moline, Ill. Can you please take care of these if you have not already done so? Our limited appropriation makes us want to save duplication of effort wherever possible.

The Fulton samples are ready to send but I have been unable to finish packing them and my assistant has never come around to do it although I asked him two weeks ago. He has diabetes and seems to be steadily getting worse. It's too bad and we want to be able to help him out so can't hurry him up like we would someone else.

The cross section of the U. S. is now in the hands of the draftsman, I hope, at least most of it is. They got me to work on Iowa as Norton could not do a hurry up job on account of age and Lees was not familiar with the deeply buried formations. The chief rub came in connecting with the Missouri section. There what on the basis of counting down from the top I would take to be Trempealeau turned out to be Bonneterre. Now McQueen makes that equal to Eau Claire (on Ulrich's say so, I judge), so that we had to show an profound angular overlap beneath the Jordan (more likely Madison). This was new to me but McQueen said he had previously found it in Missouri so I yielded to him and I think everything is now quiet on the Missouri front unless Ulrich happens to see some of my letters!

I have been up to Baraboo with Wenomacher who is working there and his results make the Devils Lake sandstone occur at the top of the Mazomanie. Now if that is Ozarkian then the base of that "period" is much lower than was previously recognized. Rensch agrees to this but if E. O. heard I really do not know what would happen to us!

I am keeping busy at home and am unable as yet to leave for any extended field work. I hope to be able to do so before the end of the month, however,

Very truly yours,



Sept. 23, 1931

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I have a letter from Mr. F. M. Gray asking that sample bags  
be sent to :

R. E. Pierce,

203 West Washington St.,

West Chicago, Illinois

Could you please take care of this request?

I am in from a month in the field first on the Kansas Geological  
Society trip through southern Oklahoma and Arkansas and then with some students  
about 100 miles north of here. Both were most interesting although they did not  
bring in any financial returns.

Very truly yours,



July 31, 1931.

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois.

Dear Mr. Workman:

I am inclosing a detailed description of the samples  
and a blue print log of city well No. 3 at Fulton, Illinois.  
The samples will follow in a short time.

Yours very truly,

FTT-T

F.T. Twaites, Geologist in charge of well records  
Wisconsin Geological Survey





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June 12, 1931

Mr. F. T. Thwaites  
Wisconsin Geological Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

In accordance with a request by Mr. F. M. Gray of June 6, we are sending inclosed a blueprint log of the well at Franklin Park so far as we have sample cuttings on file.

I shall be very interested in the geologic section which you make for the Kansas Geological Society field trip. I wonder if it will be possible for me to obtain one of these sections.

Very truly yours,

*L. E. Workman*

Associate Geologist  
Section of Subsurface Studies



STATE GEOLOGICAL SURVEY DIVISION  
305 Ceramics Building  
Urbana, Illinois

February 24, 1931

Mr. F. T. Thwaites  
Geologist in charge of well records  
Geological & Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

Thank you for your letter of February 19, inclosing the logs of the Illinois Steel Company wells and the E. S. Beck well, as listed. The Steel Company wells are indeed interesting in the way the St. Peter sandstone cuts down into the lower formations.

Yours very truly,

*L. E. Workman*

Associate Geologist  
Section of Subsurface Studies



February 19, 1931.

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois.

Dear Mr. Workman:

I am inclosing the following:

Illinois Steel Company, well No. 2.....Detailed record  
Illinois Steel Company, well No. 2.....Blue print log  
Illinois Steel Company, well No. 3.....Detailed record  
Illinois Steel Company, well No. 3.....Blue print log  
E. S. Beck well, Des Plaines.....Blue print log

You will be interested in the difference in the two Illinois Steel Company wells. If you have not the photostat copies of the company's logs, I will send you mine.

I was much interested in the copy of the Illinois Well Driller, especially in the source <sup>of parts</sup> of one of the articles!

Yours very truly,

FTT-T

Geologist in charge of well records



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SIDNEY E. EKBLAW, ASSISTANT GEOLOGIST

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January 13, 1931

Mr. F. T. Thwaites  
Geologists in charge of well records  
Geological & Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

Thank you for your letter of January 8 regarding  
the Illinois Steel Company wells and the Wisconsin Well  
Drillers Association.

Inasmuch as we already have sets of sample cuttings  
from both the wells drilled by the Gray-Milaeger Company per-  
haps it would be better if you would hold your sets until we  
have had an opportunity to check up on our samples and see  
that the sets are complete, otherwise there would be no ad-  
vantage in our having two sets. Your paper is very interest-  
ing and to the point. I wish I might be able to give as good  
a talk as this evidently was to the drillers of Illinois.

With best wishes, I am

Very truly yours,

*L. E. Workman*

Associate Geologist





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December 19, 1930

Mr. F. T. Thwaites  
Department of Geology  
Wisconsin Geological Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

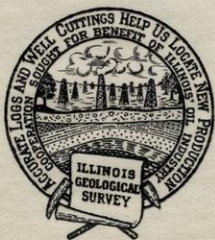
I wish to acknowledge the receipt of the sample cuttings from the Illinois Steel Company well No. 2.

We are making plans for the Convention of the American Association of Water Well Drillers with the local Association here at Urbana. Inasmuch as this is a national convention we are looking for outstanding papers from the other associations. I wonder if you have any suggestions of papers which were especially interesting and worth while at the recent convention at Madison.

Yours very truly,

*L. E. Workman*

Associate Geologist





Jan. 13, 1931

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I note that in your letter of the 19th Ult. You say "I wish to acknowledge the receipt of the sample sittings from the Illinois Steel Company well No. 2." Now on return to work in the sample room I found that my assistant went home for the holidays without sending these samples. Please set me right on this point as I do not want to send a duplicate set if you already have some. I note that Gray calls this hole No. 1 but the log sent by the Company calls it No. 2. Have not looked at samples from No. 3

very truly yours,

Geologist



Jan. 8, 1931

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

In reply to yours of Dec. 19 I now have the samples from the second hole drilled by Gray for the Illinois Steel Co. He calls this one No. 2 but their records indicate No. 3. I will send samples to you as soon as I can.

I am afraid that the recent convention at Madison did not give any suggestions worth while. They were mainly interested in a law to put well drillers under the State Board of Health the same as plumbers. There were no talks by practical drillers on drilling problems. I think that you have more deep well drillers in your association than we do. However, I am enclosing copy of my talk. Other papers will be published in the Wisconsin Well Drillers News. My paper has also be sent to Water Works Engineering.

With best personal regards,

Very truly yours,

Geologist in charge of well records



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December 10, 1930

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Mr. F. T. Thwaites, Geologist  
Geological and Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

I wish to acknowledge with thanks the receipt  
of sample cuttings from the Beck well at Des Plaines.

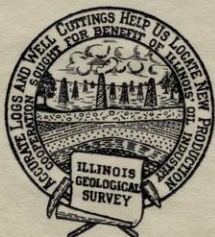
We have not received samples of cuttings from  
the Illinois Steel Company No. 2 and we would appreciate  
your sending those which you have.

I am glad to learn of the deep well drilling  
at Mt. Morris. Our Mr. Benson is stopping there today  
to arrange for sample cuttings and log.

Yours very truly,

*L. E. Workman*

Associate Geologist  
Section of Subsurface Studies





Dec. 4, 1930

Mr. L. E. Workman,  
State Geological Survey,  
Ceramics Bldg.,  
Urbana, Illinois

Dear Mr. Workman:

Samples from the Beck well at Des Plaines were sent you by express a day or so ago. I handed the log to you when last in Urbana. Blue print log will be ready at an early date.

I have looked over the samples from Illinois Steel Co. No. 2, at South Chicago. These are boxed ready to send you if you have no duplicate set.

Mr. Kirchoffer informs me that Varner is drilling a deep well at Mt. Morris. Hope you are getting samples.

We have just finished with the well drillers convention but had only a few deep well drillers there.

With best regards to you and others on the Survey,

Very truly yours,

Geologist



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L. E. WORKMAN, ASSOCIATE GEOLOGIST  
E. T. BENSON, ASSISTANT GEOLOGIST

September 16, 1930

Mr. F. T. Thwaites  
Wisconsin Geological Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

Do you have the log of the Franklin Park  
No. 3 well drilled by the Gray Well Drilling Company  
in 1923. If so, we would appreciate receiving it.

Yours very truly,

*L. E. Workman*

Associate Geologist  
Section of Subsurface Studies





Sept. 17, 1930

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

In reply to yours of the 16th I have no recollection of any well log at Franklin Park although we may have it under another name. I am positive that you have all the records which we have.

Samples and log have come for one of the wells of the Illinois Steel Co. and East Chicago. This information will reach you in due course. I have completed the tube of the Beck well, Des Plaines, and samples will be sent you soon when I have delivered the tube.

Very truly yours,

Geologist in charge of well records



September 10, 1930.

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois.

Dear Sir:

I am inclosing a detailed log of the E. S. Beck  
well at Des Plaines, Illinois.

Yours very truly,

FTT-T

Geologist



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June 14, 1930

Mr. F. T. Thwaites  
Geologist in Charge of Well Records  
Geological & Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

I do not have samples from the E. S. Beck  
well of DesPlaines and would be glad to receive a  
duplicate set from you.

Inclosed is a blueprint of the C. & NW.  
well at Proviso. I had forgotten that you were in-  
terested in this well.

Yours very truly,

*L. E. Workman*

Associate Geologist





June 12, 1930

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois  
Dear Mr. Workman:

I have samples from the E. S. Beck well, Des Plaines, Illinois.

Please advise me if you have a duplicate set, if not will save surplus for you after making him a tube.

Have you examined the samples from Provise? I have never had time to unbox my set. Nearly 50 students plus my own troubles kept me entirely too busy.

I have had lots of bad luck with tubes this year having had tow settle badly. Am going to experiment again with celluloid dissolved in acetone.

Will see you next Thursday but would like to know about the samples before if possible.

The Ohio samples were the property of the Pure Oil Co. and I returned them to their office in Chicago. A log will probably be published soon as Mrs. Theron Wasson has written a paper about this well.

Very truly yours,

F. T. Thwaites, Geologist in charge of well records



May 2, 1930

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

Mr. F. M. Gray, Jr., requests me to send sample bags to Mr. John Mayer, Apt. 417, 7715-7717 South Shore Drive, Chicago for the new wells at the Illinois Steel Company works. I have sent him 100 bags for the first well which is now down about 500 feet. If you have not done so already could you send him more. There will be two wells, each over 1500 feet deep.

I went down to Highland, Indiana, last week and saw a man drilling an oil well. He was down 2200 feet and drilling in Eau Claire shale but asked me how deep he would have to go to find the Dundee! Logan is getting samples.

Have been corresponding with Mrs. Wasson of the Pure Oil Co. about samples from a deep test in Ohio. I now have them but have not been able to open the box. Suggested that correlation with the Tennessee section might be more logical than with Wisconsin. She had been going on Logan's report and was going to publish the log with his correlation but I dissuaded her.

I now feel all right but my wound hurts badly at times. Have to make field trips for the next three weeks straight.

Very truly yours,

F. T. Thwaites, Geologist



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May 9, 1930

Mr. F. T. Thwaites  
Geol. & Natural History Survey  
Madison, Wisconsin

Dear Mr. Thwaites:

As per your request of May 2, I am sending  
200 sample sacks to Mr. John Mayer for use in saving  
cuttings from the new wells at the Illinois Steel Com-  
pany Works.

I am interested in knowing how you will dis-  
pose of the samples from the Pure Oil Company's deep test  
in Ohio. If you have nothing else to do with them you  
might send them on down to us and let me look them over  
for the fun of it.

Thanking you for your letter, I am

Yours very truly,

*R.E. Wakeman*

Associate Geologist  
Section of Subsurface Studies



# WATER WORKS ENGINEERING

*The Journal of the Water Works Profession since 1877*

WESTERN OFFICE  
30 NO. MICHIGAN AVE.  
CHICAGO, ILL.

24 WEST 40th STREET  
NEW YORK CITY

Dec. 9, 1930

Mr. F. W. Thwaites,  
% Water Department,  
Madison, Wis.

Dear Mr. Thwaites:

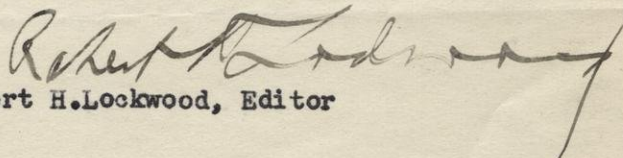
We note that you read a paper on "Your well samples and how kept," before the 4th Convention of the Wisconsin Well Drillers Association, and we are writing to ask if you will be so good as to send us a copy of this paper for publication of excerpts in WATER WORKS ENGINEERING.

If there are any illustrations accompanying the paper we would like to receive copies of them, or if you have no copies we would like to borrow the originals which we will take good care of, returning them to you just as soon as we have made reproductions.

With kindest regards, we are,

Cordially yours,

WATER WORKS ENGINEERING

  
Robert H. Lockwood, Editor

RHL:EA



Jan. 6, 1931

Mr. Robert H. Lockwood,  
Editor,  
Water Works Engineering,  
24 West 40th St.,  
New York City

Dear Sir:

In reply to yours of Dec. 9 I am enclosing copy of my talk at the convention of the Wisconsin Well Drillers Association last November.

I have the permission of the Secretary for publication. The only illustration I could wish to use would be one of the graphic logs. I will not send this unless you desire as it would have to be sent flat in a large envelope. I am enclosing a sample sheet not suitable for use and which you do not need to return. I regret the delay in getting out this material but as the talk was extemporaneous I had to write it later.

Very truly yours,

F. T. Thwaites  
Geologist in charge of well records



# WAYSIDE HOTEL

JOHN M. GORLIN, PROPRIETOR

WALWORTH, WISCONSIN

Dear Sir,

In reply to your letter of the 18<sup>th</sup> past; I wish to state that the rates are: \$1.25 with running water single; \$2.00 double. Without running water in the room it is \$1.00 single and \$1.50 double. The meal rates can be arranged when you arrive.

I thank you for your past patronage and hope for your best satisfaction in the future.

Sincerely yours,  
John M. Gorlin  
Prop.



April 18, 1932

Wayside Hotel,  
Walworth, Wisconsin

Gentlemen:

I am planning to bring my class to your hotel this coming Saturday night, April 23. I desire the same as last year, namely supper, lodging, breakfast, and a simple lunch to take into the field. The party will probably number 13, 11 men and two girls. I will want to have a room to myself if possible. As before I will pay in a lump sum for the entire party. In reply please state rates.

Thanking you for your kindness in the past,

Very truly yours,

F. T. Thwaites, Lecturer in Geology





**WISCONSIN POWER AND LIGHT COMPANY**  
122 W. WASHINGTON AVE.  
MADISON, WISCONSIN

April 13, 1932

Mr. F. T. Thwaites  
Science Hall  
University of Wis.  
Madison, Wisconsin

Dear Sir:                      Subject: Purchase Order #196971

On March 11 we sent you the above order covering one tube of the Ripon well. Will you kindly send us your invoice in triplicate covering this tube so that we may close our files on this order.

Very truly yours,

J. H. Verheyden  
Purchasing Agent

By *Fewellch*

FEW:MS



April 15, 1932

Wisconsin Power and Light Co.,  
122 West Washington Ave.,  
Madison, Wisconsin

Attention Mr. J. H. Verheyen, Purchasing Agent

Gentlemen:

In reply to yours of April 13 enclosed please find my bill for tube of  
Ripon well in triplicate.

Very truly yours,

F. T. Thwaites, Lecturer in Geology.

Science Hall, Madison, Wisconsin



April 15, 1932

Wisconsin Gas and Electric Co.,  
Fort Atkinson, Wisconsin

Attention Mr. W. D. Leonard, Dist. Manager

Gentlemen:

Please accept my thanks for the photograph of No. 3 well at Fort Atkinson.

Very truly yours,

F. T. Thwaites, Lecturer in Geology



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# Wisconsin Gas & Electric Company

Ft. Atkinson, Wisconsin

April 11, 1932

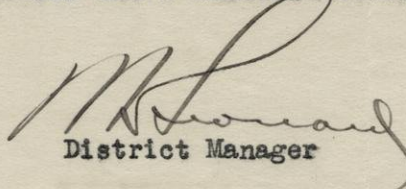
Prof. F. T. Thwaites,  
Geologist, Science Hall,  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

Inclosed herewith find a photograph taken of the new  
Fort Atkinson Well No. 3. You, of course, are acquainted with  
the drilling of the well through the work of Mr. J. Albert M.  
Robinson.

Very truly yours,

WISCONSIN GAS & ELECTRIC COMPANY

  
District Manager

W.D. Leonard/MG



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*The Journal of the Water Works Profession Since 1877*

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Mar. 29, 1932

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Madison, Wis.

Dear Mr. Thwaites:

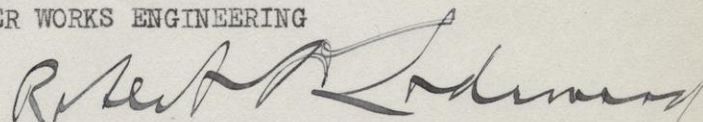
Thank you very much for the abstract of your talk  
on "Geological Aspects of Water Supplies from Rock Formations",  
before the Wisconsin Section meeting last year at Racine.

We have placed this in our files for use in WATER  
WORKS ENGINEERING.

With kindest regards, we are,

Cordially yours,

WATER WORKS ENGINEERING



Robert H. Lockwood, Editor.

RHL:FS



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January 23, 1931

Mr. F. T. Thwaites

Science Hall

Madison, Wisconsin

Dear Mr. Thwaites:

We were very pleased to receive the return card from you stating that you have found our Johnson National Drillers' Journal interesting and would like to continue receiving it. We will be glad to send it to you each month, and we hope you will find each issue of interest and value.

We note that you think we treat water witching too leniently. You must not forget the old saying, "if you give the calf enough rope it will hang itself". I agree with you in having no faith in it personally.

May we suggest that you make it a point to drop us a letter giving some of your ideas and experiences which we can publish in the Journal for the interest of our other readers. It would give us much pleasure to receive such a letter from you.

Thank you for your interest in our Journal, and please pardon the delay in replying to you which was occasioned by the fact that there was such a great flood of return cards received.

With sincerest good wishes for a prosperous 1931, we are

Cordially yours,

EDWARD E. JOHNSON, Inc.

By *H. O. Williams*

HOW:EL



*The* WISCONSIN BLUE PRINT COMPANY  
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March 18, 1932

Mr. F. T. Thwaites,  
Science Hall, U. of W.  
Madison, Wisconsin

Dear Sir:

This is to advise you that your Mounted  
Drafting Paper which you ordered has arrived.

Very truly yours,

THE WISCONSIN BLUE PRINT COMPANY

N:S

Pres.

*L. W. Kitchum* ✓



March 23, 1932

Mr. Robert H. Lockwood, Editor,  
Water Works Engineering,  
24 West 40th St.,  
New York City

Dear Sir:

I am afraid I have been a long time in answering yours of Oct. 26, 1931 but work has been so pressing that it was not until a few days ago that I could write a summary of the extemporeous talk I gave at Racine last October. Enclosed is a copy of the abstract of this talk which I hope may be in part of some value to you. For illustrations I used one lantern slide and some drawings. I had expected by now to have a cut of the slide which shows the surface of the "granite". So far this has not been sent me by the Geological Society of America although promised during the summer. Under the circumstances I do not feel that any illustrations are needed.

Very truly yours,

F. T. Thwaites, Lecturer in Geology, Geologist in  
charge of well records, Wisconsin Geological  
Survey.



# WATER WORKS ENGINEERING

*The Journal of the Water Works Profession Since 1877*

MEMBER A. B. C. - A. S. P.

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24 WEST 40TH STREET  
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Oct. 26, 1931

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Mr. F. T. Thwaites,  
Wisconsin Geological Survey,  
Madison, Wis.

Dear Mr. Thwaites:

We note from the program of the Wisconsin Section of the A.W.W.A., that you are to present a paper on "Geological Aspects of Water Supplies from Rock Formations," and we are writing to ask if you will be so good as to send us a copy of this paper for publication in WATER WORKS ENGINEERING.

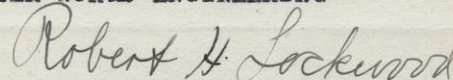
Of course we will follow out our usual custom and publish only excerpts from the paper in accordance with our understanding with the Association.

If there are any illustrations accompanying the paper we would like to receive copies of them, or if you have no copies we would like to borrow the originals which we will take good care of, returning them just as soon as we have made reproductions.

With kindest regards,

Cordially yours,

WATER WORKS ENGINEERING



Robert H. Lockwood, Editor

RHL:EA



STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

M. M. LEIGHTON, CHIEF  
305 CERAMICS BUILDING  
UNIVERSITY OF ILLINOIS CAMPUS

URBANA

June 8, 1933

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

In going over the records of the Elmhurst wells I am surprised to learn that we do not have sample cuttings on file from any of them. However, you studied the samples from well No. 2, your numbers being 52092-52168. If you still have these samples we shall be very glad to receive a cut of them.

With best wishes,

Yours very truly,

*L. E. Workman*

Associate Geologist  
Subsurface Division



Sept. 19, 1933

Mr. L. E. Workman, Associate Geologist,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

I am afraid that I have been a long time in answering yours of June 8 requesting a split of the samples from No. 2, city of Elmhurst. This came just as I was finishing up last spring and the summer just seemed to go before I got around to this. I would have given you the whole set but with our filing system it would have been a terrible job to reoccupy the space thus vacated so though best to divide. You will note that I used second hand tags and bags. The marks for depth are on backs of the tags. The samples are no good down to the St. Peter but seem to be O.K. from there down although taken by our old friend Art West, if I recall. I would no longer make the Dresbach so thick as I then did but otherwise the old classification seems to be all right unless part of the Lower Magnesian should be classed as Trempealeau (Mendota).

I just wrote Dr. Leighton in regard to a proposed cross section from Wisconsin to the Ozarks. McQueen is enthusiastic for it and I hope we can secure your cooperation. I feel that the Illinois route is better because you have some pre-Cambrian wells which they do not in Iowa.

We are working on insoluble residues of the Mendota and hope to have something to offer in correlation before the section is drafted.

Although numbered among the unemployed during the summer the arrival of a new member of the family (another boy) and several field trips kept me from worrying about the depression all the time.

Sincerely,



Oct. 12, 1934

Mr. L. F. Warrick,  
Board of Health,  
State Capitol,  
Madison, Wisconsin

Dear Mr. Warrick:

Enclosed please find blueprint log of the well drilled last winter at the Oneida Prison Farm.

I would like to call your attention to the fact that they are starting a deep well at Mt. Horeb. Now they have been putting sewage effluent into the deeper formations since 1923. I am urging that as they now have another outlet for the discharge from the sewage treatment plant the drainage hole be heavily chlorinated and filled from bottom to top with concrete.

Very truly yours,

F. T. Thwaites, In charge of well records,  
Wisconsin Geological Survey



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# State Board of Health

Capitol Building

Madison, Wisconsin

October 15, 1934.

Bureau of Sanitary Engineering.

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IN REPLY PLEASE REFER TO

Mr. F. T. Thwaites,  
Department of Geology,  
University of Wisconsin,  
Madison, Wisconsin.

Dear Mr. Thwaites:-

This will acknowledge and thank you for your letter of Oct. 12th with enclosed blueprint log of the well drilled at the Oneida Prison Farm. The information regarding the deep well development at Mt. Horeb is also noted and we concur with you in the recommendation that the drainage hole formerly receiving the treatment plant effluent be heavily chlorinated and sealed with cement grout. This matter will be followed up when a representative is next in the vicinity of Mt. Horeb.

Very truly yours,

STATE BOARD OF HEALTH

L. F. WARRICK

STATE SANITARY ENGINEER

LFWm



October 22, 1934

Dr. Harold Wanless  
Geological Survey  
Urbana, Illinois

Dear Dr. Wanless:

On Sunday morning I rode for a while in the State Survey Dodge. I think that I left a geological hammer there. This hammer can be identified by a rough splinter next one of the wedges. If you find such a hammer which is unclaimed, could you please mail it to me and I will refund the postage?

Hoping that you found the trip very pleasant and profitable,

I am

Very truly yours,

FTT:N

F. T. Thwaites



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Florence M. Sylvester  
and  
Alexander M. Winchell  
announce their marriage  
on May thirty first  
at Manchester, England

At home after January first,  
Madison, Wisconsin



Sept. 18, 1934

Mr. Hubert Woods,  
R. D. 4,  
Madison, Wisconsin

Dear Sir:

Your letter of Sept. 13 to the Hydraulic Engineering Dept., of the University has been given to me to answer.

Inasmuch as I live very close to your place I suggest that you telephone me at Fairchild 1940-R and I will run over and see the locality at some time convenient to both parties. There will be no charge for this.

I suggest that you borrow a portable gasoline pump from some contractor and try it on your well. The Italian truck gardener opposite the gate to Olin Park has used such a pump to drain his tract in the spring but I do not know where he obtained it.

If you want to stop in and talk with me I live just east of Olin Park in the fourth house from the road past the Park. This is the side road leading to the Turvill greenhouses.

Very truly yours,

F. T. Thwaites, in charge of well records,  
Wisconsin Geological Survey



Nov. 2, 1933

Mr. James E. Towne, Superintendent,  
Water and Light Commission,  
Waupun, Wisconsin

Dear Sir:

Your letter of the 28th to the University of Wisconsin has reached me for reply. From a telephone conversation I gather that it first went to the Extension division.

Taking up your questions in order, the supply of water in your wells is derived from the sandstones the first of which is reached roughly 180 feet below the surface. The water-bearing formations are described in Bulletin 35 of the Wisconsin Geological and Natural History Survey published in 1915 and sold for \$1.50 by them. I have examined cuttings from a well drilled in 1904 for the city and will give the record below.

Log of city well, Waupun, Wisconsin, drilled by W. F. Sealy, 1904

	Thickness	Depth, feet
Surface, no samples	3	3
Dolomite, gray to blue-gray	157	160
Sandstone, gray to yellow-gray	125	285
Shale, dark reddish-brown	6	291
Shale, gray, some dolomite cement	9	300
Conglomerate, chert pebbles and blue-gray dolomite	26	326
Sandstone, fine to medium grain, gray to brownish gray	43	369
Shale, reddish-gray, slightly dolomitic	8	377
Sandstone, fine to medium, white to brownish-gray	848	625
No samples, sandstone, white	83	708
Sandstone, medium to coarse, gray to pink, hard, some copper stain	42	750
Granite	53	803

Log of well at Central State Hospital for the Deaf, Waupun, Wis.

Clay	1	1
Sand and gravel	4	5
Dolomite, gray	95	100
Shale, gray	5	105
Dolomite, hard, gray	64	169
Sandstone, coarse to fine, gray	23	192
Sandstone, fine, glauconitic; shale, red	52	244
Sandstone, fine, pink	42	286
Shale, red	29	315
Sandstone, red	23	338
Sandstone	17	355
Sandstone with layers of red and gray shale	254	609
Quartzite, pink	59	668



Log of the new well at the Prison Farm east of the city is enclosed. Further information about the waters is contained in the Bulletin although some of the conclusions stated therein have not been proved by later work.

With regard to purification and water treatment the University does not offer any courses in such specialized fields except a course in the College of Engineering. For information on this phase of work I can refer you to Prof. M. Starr Nichols, State Laboratory of Hygiene, Memorial Institute Building, University of Wisconsin. Manufacturers of filters, water softeners, and chlorinators also publish semi-popular literature on these subjects. Mr. A. J. Watry, a well driller in Milwaukee, published a good booklet on the subject of the geology, chemistry and bacteriology of private water supplies a few years ago (1929). You might write him to see if he has any copies left.

I am afraid that I do not know of any non-technical books on chemistry for it is a decidedly technical subject at best but possibly Prof. Nichols might be able to help you. But I would not be afraid to try to learn. A year ago I had a job where it was necessary to learn all about bacterial and chemical tests of waters and although I had not studied much of this in school I found that it was not long before I had acquired enough to enable me to do the required work.

If you have a chance to come to Madison I am sure that either Prof. Nichols or I will be glad to talk over these matters with you.

Very truly yours,

F. T. Thwaites, In charge of well records,  
Wisconsin Geological Survey



Dropped in to see you  
Saturday afternoon and will be  
back again in a few weeks.  
Work progressing well in geology  
and botany, have 148 students and  
four assistants.

L. R. Wilson



C. E. DECKER, PALEONTOLOGY  
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The University of Oklahoma  
Norman, Oklahoma

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R. W. HARRIS, PALEONTOLOGY

July 9 '34

Dear Fred:

Yours of the 22d. June at hand but the specimen of *Franconia sandstone* to be forwarded by Mr. Raaseh has not arrived.

I am not interested in the composition of the glauconite, which is variable, but in its replacement by dolomite. I wish to see to what extent this may be true of the Wisconsin occurrence of glauconite. I may wish to get more samples later - hence collect them if convenient.

I note you have a Pensacola grant and am sure you will have found the Monnetts of drift of special interest, especially the eskers and their relation to old shore lines and of the lake.

Yours very truly  
S. Weidman



June 22, 1934

Mr. J. W. Wenemacher,  
Bin Q,  
Shell Oil Corporation,  
Long Beach, California

Dear Joe:

One of our students, Mr. Meek, wants to do some work in the Baraboo Region this summer and I let him make blueprints of your elevation plats. As I recall it you discovered an error in closure after these were made which affected one of the lines. Would be glad to learn which line this is so that Mr. Meek can check it if need arises.

I go into the field Monday with a Penrose grant. I expect to square up the boundaries of the 1926-8 area in northeastern Wisconsin and get a report ready for publication next winter.

Amy and the two boys are all well. She was out with me for six days recently making the log for the 1935 Kansas Geological Society trip.

With best regards,

Sincerely,

F. T. Thwaites



**Coe College**  
Cedar Rapids, Iowa

Department of Geology,  
October 13, 1934.

Mr. F.T.Thwaites,  
Department of Geology,  
University of Wisconsin,  
Madison, Wisconsin.

Dear Mr. Thwaites:

While in Madison two weeks ago I stopped at your office to see you about a matter concerning the handling of several advanced geology students. I have a small group of enthusiastic students that want further work in geology and I am wondering if it would be possible to conduct a seminar in glacial geology using your text as a guide. I do not have the address of the company that published your text for my copy is still in Madison. Would you kindly send this to me.

At present I have about seventy students in general geology and three in paleontology. The work is going very smoothly and I am learning much more than any of my students, but it keeps me hopping twelve or fourteen hours a day. I expect to go back to school in the summer for more work in geology for I find that it is giving me more satisfaction than working with protoplasm. As soon as the classes get more settled I am going to start on the plant fossils of the state. I have found two locations, one Pennsylvanian and the other Pleistocene.

I shall be in Madison in about two weeks to arrange for my final examination and I will stop in to see you at that time.

Yours very truly,  
*Bonard R. Wilson*



Oct. 17, 1934

Mr. L. R. Wilson,  
Department of Geology,  
Gee College,  
Cedar Rapids, Iowa

Dear Mr. Wilson:

I recieved your note some time ago. Was working on the P. W. A. drought investigation then. Am very glad to hear you have so many students. We have an increase here but some are not of very good quality, I fear.

The Outline of Glacial Geology is published by Edwards Brothers, Ann Arbor, Michigan. Will be very glad if you can dispose of a few more copies.

I spent most of the summer in northern Wisconsin working with a Penrose grant from the Geological Society but then the old Chevy wore out and work had to stop. So far I have been unable to get a new car. Used cars are too expensive and I have not had the price of a new car even if I could find one which will go on rough trails!

Sincerely,

F. T. Thwaites



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The University of Oklahoma  
Norman, Oklahoma  
June 7, 1934  
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R. W. HARRIS, PALEONTOLOGY  
J. W. STOVALL, PALEONTOLOGY

Mr. Fred T. Thwaites  
Science Hall  
Madison, Wisconsin

Dear Mr. Thwaiter:

I would like to get, if possible, a few samples of glauconite sandstone from the Potsdam, say from the Franconia-Mazomanie formation, or from lower beds such as the Dresbach. Fairly consolidated material suitable for making thin sections will be satisfactory. I want to compare them with some glauconitic rock from the Reagan sandstone of Oklahoma. Ask Winchell if he has any thin sections made for the H. A. Schneider investigation in 1927.

*If you have any samples on hand.*

With kind regards,

Very truly yours,

S. WEIDMAN

SW:FB



June 22, 1934

Dr. Samuel Weidman,  
University of Oklahoma,  
Norman, Oklahoma

Dear Dr. Weidman:

Reply to yours of the 7th was delayed because I was out in the field.

When at Genoa I collected a sample of glauconitic sandstone from the Upper Greensand member of the Franconia which I gave to Mr. Raasch yesterday to forward to you. As Winshell is in Europe at present and no one else seems to know anything about Schneider's work I was unable to discover any thin sections. It is my belief, however, that you will find that all glauconite is essentially the same although I know that the exact chemical composition varies somewhat. If you need more material please advise.

I am leaving Monday for Marinette County to round out the area on which I spent three summers some time ago and put the work in such shape as to allow of publication. I have a Peabody grant to finance this. Have just revisited some of our old stamping ground around St. Croix Falls. In the light of present-day science the glacial stuff looks altogether different than it did then but my interpretation of the structure and stratigraphy seems to have stood the test of time!

With best regards,

Sincerely,

F. T. Thwaites

If you need more material please advise.



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LEGAL RESERVE

May 25, 1934

Prof. F. H. Thwaites  
Science Hall  
University of Wisconsin  
Madison, Wisconsin

Dear Prof. Thwaites:

In accordance with Mr. Chapman's instructions,  
I am enclosing check for \$5.00 to cover your inspection trip  
on the Orcutt farm.

Yours very truly,

MORTGAGE LOAN DEPARTMENT

JWJ:T

By J. W. Jackson  
J. W. Jackson



March 23, 1934

Weston Electrical Instrument Corporation,  
Waverly Park,  
Newark, New Jersey

Gentlemen:

I am preparing a paper on the subject of Field Photography for Geologists and would like information on your photoelectric exposure meters so that I can describe them. I am also considering the purchase of one of these instruments.

Very truly yours,

F. T. Thwaites, Lecturer in Geology,  
Science Hall, Madison, Wisconsin



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STATE UNIVERSITY  
DEAN CHARLES M. THOMPSON

March 1, 1934

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

Please do not trouble yourself about the prospects of preparing cuttings of the samples from wells in Illinois. I shall make arrangements to get these samples some time when one of us is in northern Illinois. On looking over your list which you furnished some time ago I find there are other sets which we would like to obtain also. There is no hurry for these samples and we shall, therefore, wait until a convenient time for obtaining them.

I expect to work on the cross-section from Wisconsin to Missouri shortly.

With best wishes,

Yours very truly,

*L.E. Workman*

Associate Geologist  
Subsurface Division



Feb. 26, 1934

Mr. L. E. Workman, Associate Geologist,  
State Geological Survey,  
Urbana, Illinois

Dear Mr. Workman:

Yours of August 7, 1933 delayed in mailing arrived duly.

We have the samples from the St. Marys Seminary wells. These were collected before you started doing any work in the northern part of the state and so were not divided. You are welcome to any or all of the samples but I have no help of any kind this year. It is necessary for me to do all the work myself. This means that I cannot touch the matter until after Easter at the earliest. If you get a chance to come up here maybe that would be best. It might easily happen that I could not get at this matter until next summer. If you have a supply of the envelopes used by oil companies for sample storage it would facilitate matters. I have to clean old sample bags for this purpose. Or some new sample bags would also help as preparing bags takes most of the time on this kind of a job.

With best regards,

Sincerely,

F. T. Thwaites





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M. F. WALSH, DIRECTOR  
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John J. Hallihan

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STATE OF ILLINOIS  
STATE GEOLOGICAL SURVEY DIVISION

M. M. LEIGHTON, CHIEF  
305 CERAMICS BUILDING  
UNIVERSITY OF ILLINOIS CAMPUS

URBANA

August 7, 1933

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I have recently had an occasion to furnish Mr. F. M. Gray with a log of the St. Mary's Seminary well No. 2 and realize that we do not have the sample cuttings from either this well or the first one. I wonder if you still have these cuttings on file at the University of Wisconsin. The cuttings from No. 1 are your numbers 54521 to 54659 and from No. 2 are your numbers 71276 to 71506. If you still have these samples would it be possible for you to send us cuttings for filing here. If you are unable to have them prepared for us perhaps we can make arrangements to come to Madison and obtain them.

With best wishes,

Yours very truly,

*L. E. Workman*

Associate Geologist  
Subsurface Division



THE UNIVERSITY OF WISCONSIN  
STATE OF WISCONSIN GENERAL HOSPITAL  
MADISON

MEDICAL DIVISION

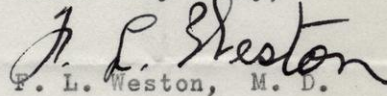
September 6, 1938

Mr. F. T. Thwaites  
Route 4  
Madison, Wisconsin

Dear Mr. Thwaites:

This note is just to report to you a perfectly normal urine which was studied at the time of your visit here two or **three** days ago. Certainly with your blood pressure as is and the urine normal, I feel that there is nothing to worry about along that line. I trust that the hernia has been well handled by your new truss. If there is any question I would be pleased to see you.

Yours very truly,

  
F. L. Weston, M. D.

FLW:GJM



THE STATE UNIVERSITY OF IOWA  
IOWA CITY

DEPARTMENT OF GEOLOGY

PLEASE ADDRESS  
REPLY TO WRITER

March 9, 1937

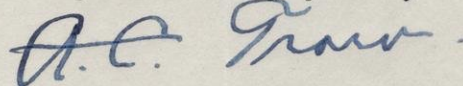
Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Fred:

As a candidate for graduate appointment in geology at Iowa for 1937-38, Mr. Edward H. Wenberg has given us your name as a reference. I hope you will be good enough to write me a letter giving a critical analysis of Mr. Wenberg's qualifications for this appointment.

Because our recommendations to the Graduate College must be made on March 20 it will be much appreciated if you will reply by return mail.

Very sincerely yours,



A. C. Trowbridge.

ACT:F



March 10, 1937

Professor A. O. Trowbridge  
Department of Geology  
University of Iowa  
Iowa City, Iowa

Dear Trow:

In reply to yours of March 9th, Mr. Wenberg took  
Physiography with me last year and made very good grades. My im-  
pression of his work as a whole was that he was very hard working  
and conscientious but not especially brilliant.

He also spent a month with me in the field on glacial work  
and I was very much pleased with his work there as he proved thor-  
oughly and reliable.

Very truly yours,

FTT:N

F. T. Thwaites



STATE OF ILLINOIS  
HENRY HORNER, GOVERNOR  
STATE GEOLOGICAL SURVEY DIVISION

M. M. LEIGHTON, CHIEF  
305 CERAMICS BUILDING  
UNIVERSITY OF ILLINOIS CAMPUS

URBANA

December 11, 1936

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STATE UNIVERSITY  
PRESIDENT ARTHUR CUTTS WILLARD

Mr. F. T. Thwaites  
Wisconsin Geological Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

I have your letter of November 28  
and wish to thank you for the blueprint log of the  
Grasselli Chemical Company well of East Chicago, Indiana.

I would differ from you in the interpretation of the material down to 150 feet. Enclosed is a description of these materials which I made in 1930, and I have reexamined them at this time. It appears to me that the so-called "mud" at 40 to 72 and 101 to 150 feet is in reality glacial till which contains considerable material suggestive of the Devonian shale but which is actually ground-up shale and other materials. The sample at 72 to 101 feet is gravel, the fragments being too large for cuttings, and including pebbles of limestone, siltstone, and granite.

You will note that the sample from 150 to 193 feet is described as partly sandy. Upon reexamining this today, I believe that this sample may be Devonian limestone, probably representing the Cedar Valley (Upper Devonian) formation.

A direct comparison of the cuttings from this well with cuttings from a well at the E. J. & E. pumping station at Dyer reveals the fact that the strata between 604 and 635 feet are the Maquoketa formation. This is the middle limestone member described in our Bulletin 43 on the Morris quadrangle.

With best wishes,

Yours very truly,

*D. E. Workman*

Associate Geologist  
Subsurface Division

Encl.



BOARD OF NATURAL RESOURCES  
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CHIEF OF BUREAU  
CHIEF OF BUREAU

Sand 40 40  
Clay, dol. br. gray 32 72  
Gravel, clean 29 101  
clay, dol. brown & gr. gy 150

December 11, 1936 49 150

dol. buff & lt gray. 43 193  
dol. cherty, et gray to  
gray 59 252  
dol. buff & gr. gy 46 298  
dol. gy. br. 22 320

Mr. F. T. Tawaitse  
Wisconsin Geological Survey  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Tawaitse:

I have your letter of November 10 and wish to thank you for the print of the well of East Chicago, Indiana.

I would like to see the material of the material down to 150 feet. Enclosed is a description of these materials which I made in 1930, and I have reexamined them at this time. It appears to me that the so-called "mud" at 40 to 72 and 101 to 150 feet is in reality glacial till which contains considerable material suggestive of the Devonian shale but which is actually ground-up shale and other materials. The sample at 72 to 101 feet is gravel, the fragments being too large for cuttings, and including pebbles of limestone, silstone, and granite.

You will note that the sample from 150 to 193 feet is described as partly sandy. Upon reexamining this today, I believe that this sample may be Devonian limestone, probably representing the Cedar Valley (Upper Devonian) formation.

A direct comparison of the cuttings from this well with cuttings from a well at the E. L. & E. pumping station at Dyer reveals the fact that the strata between 604 and 635 feet are the Mackinac formation. This is the middle limestone member described in our Bulletin 17 on the Morris quadrangle.

With best wishes,

Yours very truly,

G. E. Wolman

Associate Geologist  
Superior Division

Enc.



March 6, 1937

Mr. L. E. Workman,  
State Geological Survey,  
Urbana, Illinois

Dear Workman:

I am afraid I have been a long time in thanking you for your s of Dec. 11, 1936 with enclosed log of upper part of the East Chicago well. The blueprint had to be rushed through to meet Gray's needs so that is now a closed issue but I am very glad to get the corrections. Am returning copy from your files herewith..

Things are no better here. No sign of salary restorations and much increased classes but we are still hoping. Lots of samples are coming in. I have some from two Illinois wells, one by Gray at Oak Park and another by Milaeger. Will send them on unless you have duplicates. I have not any record of the location of one of them at home although it is in the file at the office.

With best regards,

Sincerely,





233 N. Professor St.  
Oberlin, Ohio  
Feb. 23, 1937

Dear Mr. Thwaites,

I know you are kept pretty busy and it has been partly my fault. There is one other school to which I am applying for a fellowship. That is the University of Virginia. Would you write to:

Secretary to the Dean of the Graduate  
Department

University of Virginia  
Charlottesville, Va.

in my behalf?

If there are any other letters to send, I'll send you a mimeograph machine first. That will save wear and tear on the wrist.

Best wishes,  
Edwin Wenberg.



February 26, 1937

Secretary to the Dean  
Graduate Department  
University of Virginia  
Charlottesville, Virginia

Dear Sir:

Mr. Edwin Wenberg has written me asking me to write you in regard to his work here last year.

He took Physiography of the United States with me and did very good work, making a grade of "A". He also spent nearly a month with me in the field last summer, doing glacial work. I was very much pleased with his work in the field as he proved to be always very careful and conscientious. His work in school was marked more by thoroughness than by exceptional brilliance.

Very truly yours,

FTT:N

F. T. Thwaites



**NORTHWESTERN UNIVERSITY**  
**COLLEGE OF LIBERAL ARTS**  
**EVANSTON, ILLINOIS**

DEPARTMENT OF GEOLOGY  
AND GEOGRAPHY

February 24, 1937

Professor F. T. Thwaites  
Department of Geology  
The University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

We gratefully acknowledge receipt of your letter of February 23 regarding Mr. Edwin Wenberg who is applying for an assistantship in this department for the year 1937-38.

Yours very truly,

*Ruth D. Lutz*  
Departmental Secretary

RDL



NORTHWESTERN UNIVERSITY  
COLLEGE OF LIBERAL ARTS  
EVANSTON, ILLINOIS

February 24, 1937

February 15, 1937

DEPARTMENT OF GEOLOGY  
AND GEOPHYSICS

Professor Wm. E. Powers  
Department of Geology  
Northwestern University  
Evanston, Illinois

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Dr. Powers:

In reply to yours of February 15th, I now have two students who are applying for the position of graduate assistant in your department. One of these is E. H. Wenberg. I have already written the Secretary in regard to his application. Wenberg has been in your school before. His only work under me was in Physiography, but he spent a month with me on glacial work in northern Wisconsin last summer.

The other applicant is R. W. Stauff, who is majoring in geography. He took Physiography with me last semester and made the grade of "B". This semester he is taking Physiography, Glacial Geology, and Mapping under me.

Both of the applicants appeal to me as hard workers, and I think either would fill the position satisfactorily. Both of them are interested in surface geology and would be able to help you in your glacial studies during the summers. I will not undertake to recommend one as better than the other.

Very truly yours,

With best regards, I am

FTT:N

Sincerely yours,

F. T. Thwaites

William E. Powers

WEP:RL



NORTHWESTERN UNIVERSITY  
COLLEGE OF LIBERAL ARTS  
EVANSTON, ILLINOIS

DEPARTMENT OF GEOLOGY  
AND GEOGRAPHY

February 15, 1937

*E H Waring* *Phy A - mountain in field*  
*RW Stauff* *Phy B - mountain general geology*

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Dr. Thwaites:

Dr. Behre recently sent your Department application blanks for students who desire the position of graduate assistant in our Department. If you have one or two promising students who are particularly interested in physiography or glacial geology, and are candidates either for the master's or doctor's degree, I hope that you will encourage them to apply. As you know, there are excellent glacial problems in the neighborhood. Most of the young people who come here are committed to the study of petrography, ore deposits, or some other hard rock field, and we are getting anxious to have someone who will help me in glacial studies in the northern part of the State.

With best regards, I am

Sincerely yours,

*Bill Powers*  
William E. Powers

WEP:RL

*over*



February 23, 1937

Dean of the Graduate School  
University of Minnesota  
Minneapolis, Minnesota

Dear Sir:

Mr. Edwin Wenberg has asked me to write you in regard to his application for next year.

He took Physiography of the United States with me last year and made the grade of "A". He also spent nearly a month with me on glacial work in northern Wisconsin. I found that all of his work was very carefully and conscientiously done. I regard him as an entirely trustworthy although not an especially brilliant student. His field work was especially good and reliable.

Very truly yours,

FTT:N

F. T. Thwaites





233 N. Professor St.  
Oberlin, Ohio.  
Feb. 16, 1937

Dear Mr. Thwaites,

In addition to applying for a scholarship from the University of Wisconsin I am applying for a scholarship or assistantship at the University of Minnesota and at Northwestern University. I would greatly appreciate it if you would write them in my behalf. The letters would have to be received by March 1st and would need to be sent to:

Dean of the Graduate School  
University of Minnesota,  
Minneapolis, Minn.  
and

Secretary of the Dept. of Geology  
and Geography  
308 University Hall  
Evanston, Ill.

Yours sincerely,  
Colvin Wenberg.



February 23, 1937

Secretary  
Department of Geology & Geography  
308 University Hall  
Evanston, Illinois

Dear Madam:

Mr. Edwin Wenberg has asked me to write you in regard to his application for next year.

He took Physiography of the United States with me last year and made the grade of "A". He also spent nearly a month with me on glacial work in northern Wisconsin. I found that all of his work was very carefully and conscientiously done. I regard him as an entirely trustworthy although not an especially brilliant student. His field work was especially good and reliable.

Very truly yours,

FTT:H

F. T. Thwaites



UNIVERSITY OF MINNESOTA

GRADUATE SCHOOL

MINNEAPOLIS

OFFICE OF THE DEAN

February 20, 1937

My dear Professor Thwaites:

Edwin Hugo Wenberg has applied for a position as Assistant in Geology in this University. Your name has been given as a reference. I should appreciate any information which you may be able to give in regard to the fitness of this candidate for the position named.

Prof. F. T. Thwaites  
Dept. of Geology  
University of Wisconsin  
Science Hall  
Madison, Wisconsin

Dean of Graduate School,  
University of Minnesota,  
Minneapolis, Minnesota.





Oberlin, Ohio

Feb. 10, 1937

Dear Mr. Thwaites,

I am applying for a scholarship at the University of Wisconsin for this next year. For that reason I am asking you to write a few words in my behalf to the Dean of the Graduate School, Bascom Hall before Feb. 15.

I expect to finish work for a master's degree here at Oberlin by the end of next summer and to continue work towards a doctor's degree at some larger institution.

Your letter came. Thank you for it. Congratulations on your youngest! You now have a family just like mine — three boys. I hope all is well with you.

Yours,  
Edwin Wenberg.



# COE COLLEGE

CEDAR RAPIDS, IOWA

Department of Geology  
February 2, 1937.

Mr. F.T.Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

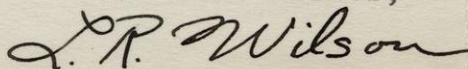
Dear Mr. Thwaites:

I am now gathering a few details together for my next year courses and I am particularly interested in expanding the glacial geology. I am writing to you to inquire if you will have a new "Outline" ready by that time. We usually get together our book needs by March of the preceeding year and then we have ample time to plan new features in the courses. Glacial geology, as I think I have already told you, is given in alternate years. Since it was last given I feel that I have traveled a long distance. The experience of last summer in the moutains of the west has enriched my knowledge greatly.

The field trip was such a great success that the college plans to expand it considerably this coming summer. I am allowed one hundred dollars for new equipment and will receive my expenses in addition. We plan to stop in the Black Hills for a few days and then go to the Big Horn Mts. From there we will go to Yellowstone National Park and then south to The Tetons, where the base camp will be established. On the route home we will visit several places in the Wyoming Basin and the University of Wyoming camp in the Medicine Bow Mts. In the Tetons there is much to do in nearly every field of geology. Last year we just "brushed the surface" of a few of the problems. One of the seniors will work on the sedimentation in a small lake at the foot of the Grand Teton Glacier, for his thesis. That lake is like pea soup because there is so much "flour" in the water. We will make borings in the bed, and collect water from various depths, and also investigate the temperatures.

The two majors that I had last year received appointments at the University of Wyoming and the University of Oklahoma. They are doing very well. Two more are graduating this year and one goes to graduate school, probably Missouri, and the other enters the army with a commission. The department is growing rapidly and Coe is a very pleasant place to teach. Last year the faculty advanced my rank and the salary was increased three hundred and fifty dollars. I received such an unfriendly reception from Kay that I am not doing much with the Pleistocene fossils yet, but I am very busy with the microfossils of the Iowa coal. One paper is nearly ready to appear.

With best wishes,



L. R. Wilson

Asst. Prof. of Geol. and Bot.



Feb. 13, 1937

Dr. L. R. Wilson,  
Coe College,  
Cedar Rapids, Iowa

Dear Wilson:

I was glad to get yours of the 2nd. I already have a stock of the new edition of the Outline and so can fill whatever order you place. I have sold quite a few already although I expect this lot will last much longer than did the others.

I am glad you are able to do field work in the west. Last summer I almost finished the field work on northeastern Wisconsin and turned in a preliminary draft of the final report. Next summer this will be finished.

I regret to learn that you are not doing anything on the Pleistocene fossils as I feel that this is a great field which the older Iowa geologists neglected for many years. However, I am not at all surprised at what you tell me.

We now have a third boy born October 2nd. They keep me pretty busy besides which classes are now larger than ever.

With best regards,

Sincerely



Jan. 27, 1937

Mr. E. H. Wenberg,  
233 N. Professor St.,  
Oberlin, Ohio

Dear Mr. Wenberg:

I am ashamed to see that your letter of Oct. 8, 1936 was so long in my "require attention" folder! But it arrived just about the time that Bobby (whose picture you have seen on the Christmas card) came home from the hospital. The study was then given over for his sleeping quarters and for a long time despite the fact that he has been unusually good normal work there became impossible. The last two nights are the first yet we did not get up for a night feeding and now I hope to catch up a bit.

Many thanks for the photos. I was too short of film to attempt much while at Camp Trump Lake.

The text of the report was finished about the first week of October (Bobby arrived early on the second) and sent in. Benish has worked (N. Y. A.) on the big basemap ever since but I have been unable to do much. A big physiography class which started out at 38 and attempts at the advanced course coupled with taking Tommy back and forth to Randall School kindergarted effectually stopped many plans. However, I expect to do a few days work between semesters.

I have made no definite plans on the matter of the Lake Superior sandstone but may do so for 1938 if not for a short trip this coming summer. Bays claims he is going up there but I don't know when or where.

During the recent holidays I went to Cincinnati and talked with Prof. Hubbard. He told me that you were working hard and seemed pleased with your work.

Had a letter from your mother thanking me for the card and saying that your brother at home now has a job which I was very pleased to learn.

I certainly enjoyed our trip of last summer and hope we may be able to get out again sometime, possibly to trace the Lake Superior sandstone in its native haunts.

With best wishes for 1937,

Sincerely,



Oct. 26, 1936

Dr. L. R. Wilson,  
Coe College,  
Cedar Rapids, Iowa

Dear Wilson:

I was glad to get yours of the 5th but the confusion of the opening of school and the arrival of another boy in our family have prevented me answering before.

The new edition of the "Outline" will come out for the recognition of a substage boundary along the line you mention in northern Wisconsin. I am making a map showing these boundaries with solid color to distinguish them from other moraines. I take it your mapping is essentially the same as that of Leverett. However, I am far from sure of the correlation with the Fourth Wisconsin at the original Forest Bed locality. Your interpretation of the logs seems all right to me. I hope you are able to do more work along this line for the relations in Minnesota do not check well with those found in eastern Wisconsin.

The new edition is ready to go to the printer except for this map which will show all the glacial features of the central U. S. (full page).

Many thanks for the separates but havnt had time to distribute them yet.

Sincerely,



# COE COLLEGE

CEDAR RAPIDS, IOWA

Department of Geology  
October 5, 1936

Mr. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

For some time I have been intending to write to you about my work near Saxon this autumn, but I have also expected to make a trip to Madison and be able to discuss this with you instead.

Mr. Dietz wrote to me early in the season about some wood that he had secured near Saxon, so I made a trip to see him and I was able to get down into the well from which the material came. The wood is entirely spruce (Picea mariana) and in the well I found five logs all embedded in a stoney clay till. Overlying this is a lacustrine deposit of red clay which I take to be deposited by Lake Duluth since the well site is just below the beach cutting of that glacial lake. These represent, to me, fossils of a period previous to the red till and of the same age as the logs, which I found in Douglas County. Is this reasonable? Also I have a feeling that this period of time separates the deposition of the bright red till of northern Douglas, Bayfield, Ashland, Iron, and Vilas Counties and the deposition of the sandy drift which is exposed to the immediate southward. In Douglas County these drifts appear to me very distinct and I was able to trace the red drift, with only a few minor breaks, from Douglas County into the Winegar Moraine north of Trout Lake this fall. I feel that the Winegar Moraine represents a Fifth Substage of the Wisconsin Stage. I would like your opinion on this matter, for next summer I plan to do considerable work in Bayfield, Ashland, and Iron Counties..

About two months ago I had a letter from Kay asking me to visit him. I did, and his reaction to my work here in Iowa was most unsympathetic.

Our field trip into Wyoming was very successful and we are planning another for next year. My student, Wolf, received an appointment at the University of Wyoming through the contacts we made there. That is the reason he is not at Madison. Another student received an assistantship at



COE COLLEGE

CEDAR RAPIDS, IOWA

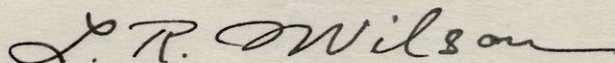
Mr. F. T. Thwaites

Page 2

the University of Oklahoma. There are two more coming on this year and they are showing promise.

If you have any suggestions for the disposal of separates of the forest bed I will appreciate them, and if you want more for your files please let me know.

With kind regards,

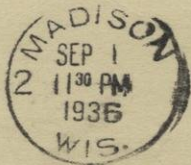
A handwritten signature in cursive script, reading "L. R. Wilson".

L. R. Wilson

Ass't. Prof. of Geology  
and Botany

LRW:WG





BUY U.S. SAVINGS  
BONDS  
ASK YOUR POSTMASTER



THIS SIDE OF CARD IS FOR ADDRESS

Box 14 C 74

F. T. Thwaites  
Science Hall  
Madison,  
Wis.



Dear Mr. Thwaites,  
you were right about that  
oolitic chert at Baraboo. It was  
found in boulders at C-5 sec. 2,  
T 10 N, R 5 E at an elevation of 1240 ft.  
Seven other locations of outcrops or  
boulders containing oolitic chert  
were noted in the Denger Quadrangle  
but they were all at elevations  
of 1250 ft. or lower. I'm sorry for the  
misstatement. The chert is not on the penexplan.  
Ed Rwenberg.



July 2, 1936

Mr. L.F. Warrick  
State Board of Health  
CAPITOL  
Madison, Wis.

Dear Mr. Warrick:

Enclosed are the two prints of Random Lake Well requested in yours of the first.

On my advise this well was deepened from near the top of the Byron into the Mayville. The test submitted by Mr. McMahon indicate that this more than doubled the supply. I have no information on the quality of the water. I am confident that this well is as good a source of underground water supply as may reasonably be expected in this locality where the deepest formations contain salt water.

Very truly yours,

WISCONSIN GEOLOGICAL SURVEY  
By

FTT MA

F.T. Thwaites, Geologist, Well Records

enc.



West De Pere, Wis.

June 20, 1936.

Dear Mr. Thwaites,

I am applying for an assistant-scholarship in the Dept. of Geology at Oberlin College this next year. I have been asked for references from people with whom I have worked. Would you please write to:

Dr. George D. Hubbard

125 Woodland Ave.

Oberlin, Ohio.  
something of what you  
know about me and my work?



The vacancy must be filled at Oberlin College soon. The work would consist of half-time assisting in laboratory, field trips, etc. The rest of the time I would put in following up some of the studies in geology which I have started.

I'll be glad to hear from you at any time about your plans for this summer.

yours,  
Edwin Wenberg.



## THE UNIVERSITY AND WATER RESOURCES

### I. Nature of our Water Resources

General	(1)*	
1. Rainfall	(2)	Dawson
2. Runoff		
a. Rivers	(2)	Dawson
b. Lakes	(2)	Birge
3. Groundwater	(3)	Thwaites
4. Harmful Effects		
a. Floods	(1)	Dawson
b. Drought	(1)	Dawson
c. Pollution	(2)	Nichols
5. Control		
a. Legal	(2)	Glaeser
b. Economic	(2)	Glaeser

### II. Sources of Basic Information

1. Rainfall	(1)	Dawson
2. Runoff	(1)	Dawson
3. Lake Levels	(1)	Birge
4. Groundwater	(1)	Thwaites
5. Water Laws	(1)	Glaeser
6. Other sources of Data	(2)	
a. Board of Health		
b. Soil Conservation Service		
c. Power Companies		
d. Consulting Engineers		
e. Municipal Engineers		



THE UNIVERSITY OF WISCONSIN  
AND THE WATER RESOURCES PROBLEMS

## III.

A. General	(6)	Committee
1. Training of Students		
2. Fundamental Research		
3. Dissemination of Information		
4. Short Courses		
B. Branches of Study		
General	(2)	
1. Water Supply		
a. Quantity and Inorganic content	(20)	Thwaites
b. Organic content pollution	(20)	Nichols
2. Water Power and Navigation	(15)	Dawson
3. Lakes	(20)	Birge
4. Theoretical and Experimental Hydraulics	(15)	Dawson
5. Hydrology	(15)	Dawson
(Example) 1. Fundamental Training	(2)	
(of a) Courses	(4)	
(Sub- 2. Advanced Training	(3)	
Division) 3. Research Projects	(3)	
4. Publications	(2)	
5. Projects accessible to students	(1)	

\* Tentative number of pages. The Soil Erosion Bulletin averages about 250 words per page.



June 15, 1936

To Whom It May Concern:

The bearer of this letter is Mr. E. E. Wilson, who was a student of mine in 1930-31. He took Mapping, which involved the use of plane table, and Physiography. He also wrote a thesis under me on the characteristics of different kinds of glacial gravel. His record was satisfactory in all of this work.

Very truly yours,

FTT:N

F. T. Thwaites



BUREAU OF  
GEOLOGY AND TOPOGRAPHY



CANADA  
DEPARTMENT  
OF  
MINES AND RESOURCES  
MINES AND GEOLOGY BRANCH

Geological Survey of Canada  
Ottawa  
March 22d.

Dr. F. T. Thuraites  
Dept of Geology,  
University of Wisconsin,  
Madison, Wisc., U.S.A.

Dear Dr. Thuraites

Enclosed find a couple of reprints. I hope that they interest you as much as your "Outline" has interested me. I think these papers are most of interest as they illustrate the value aeroplane photographs may be in glacial mapping. Also the paper on Quebec illustrates a point that doesn't arise in the U.S.A. and perhaps explains the confusion about the Swedish "O sers" or Eskers. You will notice that I have distinguished between the ordinary esker formed by deposition within an ice-bond channel. This is the type that you mention and which is common in U.S.A. There is also



2.

the case where the esker stream (~~is~~) empties into a lake (Northern Quebec) or the sea (Sweden) and a delta is annually formed at the retreating ice-front. The channel ridge is then partly (Quebec) or entirely (Sweden?) covered by the delta and the resulting esker or moraine is a ~~very~~ <sup>very</sup> wider affair. They appear to be of the type you described in the "Outline" on pp 30-31 except that the ice front was probably retreating 500' or so a year in Quebec.

Hope this interests you

Yours very truly.

J. T. Wilson



RECEIVED

March 28, 1939

Dr. J. T. Wilson,  
Geological Survey of Canada,  
Ottawa, Ontario

Dear Dr. Wilson:

Thank you for yours of the 22nd with reprints of "Drumlins of south-west Nova Scotia" and "Glacial geology of part of north-western Quebec" both of which are of great interest to me.

Next summer I intend to correct and amplify my ground studies in northern Wisconsin by means of the air photographs which have since been taken. I am introducing air mapping at Devils Lake this year using the A. A. A. photos. I do not know how it will work out but preliminary examination shows great possibilities. We can identify many section corners in the photographs and get the relief by means of the stereoscope. There will no longer be any excuse for missing valleys or clearings to say the least!

Sincerely,



xxxxxxx 41 Roby Road

June 30, 1939

Mr. Ray Wilcox,  
Mammoth Hot Springs, Yellowstone Park, Wyoming

Dear Ray:

Your telegam of the 27th arrived on the morning of the 28th and Jerry shipped the striding level off another alidade at noon. Hope you got it all right.

When carrying an alidade it is well to observe these rules:

- (1) Always lay on side with hinge down.
  - (2) Always test firmness of striding level with fingers under it before closing case.
  - (3) On any long or rough trip keep a cloth loosely packed in the space around the level to catch it should it come loose.
- When you pull this out see that the level is still in place.

The boys seem to be enjoying summer school which includes swimming lessons this year.

Hope you have a good trip.

Sincerely,



## CLASS OF SERVICE

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# WESTERN UNION

1201

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FIRST VICE-PRESIDENT

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Received at 21 West Main St., Madison, Wis. Telephone Badger 4321

C 1 35 NL=MAMMOTH HOT SPRINGS YELLOWSTONE PARK WYO 27 AM 12 16  
1939 JUN 27

F T THWAITES=

SCIENCE HALL UNIVERSITY OF WISCONSIN

STRIDING LEVEL BROKEN UPON ARRIVAL. IF POSSIBLE SEND ME  
ANOTHER VIA AIR MAIL IMMEDIATELY THIS ADDRESS. IS ESSENTIAL  
WE DO TOPOGRAPHY BEFORE PLOTTING GEOLOGY. WILL REIMBURSE  
FOR ALL COSTS MAILING AND REPAIR OF OLD LEVEL=  
RAY (ALWAYS BE CAREFUL) WILCOX.



Fri evening  
June 30

Dear Mr. Thwaites: —

The striding level arrived yesterday on schedule. Thank you very much.

Enclosed are enough stamps to repay the postage. The old striding level evidently jiggled so much in transit that the screws came undone, allowing the upper part to come off and bounce around inside the case. In doing so it broke the bubble tube and the bubble must have escaped, because it wasn't there when we opened the case. Only the fragments of broken glass. Also cracked was the glass cover of the compass needle, so we just removed that altogether, as we didn't intend to use that compass anyway. Inasmuch as I knew we would probably strike some pretty bumpy roads, I should have had forethought enough to pad the instrument better. Luckily nothing else was damaged. I will pay the expense of repair upon my return.

Ran across Prof. Fassett yesterday. He is out here on a hurried trip, hunting for "Salmon berry," — the same evil fruit that caused all the argument over the existence or non-existence of a 2<sup>nd</sup> Driftless



area in Wisconsin, if you recall.

The Yellowstone bears have been quite pestiferous, bothering our neighbors a lot the last few days, which we didn't mind, but tonight we came home to find the corner of our tent almost ripped off. That made us mad, and I have just finished constructing a Super Slingshot which I ~~guarantee~~ (sp?) vouch will make Mr. Black Bear squeal with pain.

Thank you again for your prompt cooperation. I am deeply in debt to you.

Regards to the Dept.

Ray Wilcox



# BUCHHANDLUNG GUSTAV FOCK G. M. B. H. LEIPZIG C 1

NEW YORK, N. Y.

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TELEGRAMM-ADRESSE: BUCHFOCK LEIPZIG

POSTANSCHRIFT: LEIPZIG C 1, POSTSCHLISSFACH 100

Sehr geehrter Herr,

Wir erlauben uns, Ihnen hierdurch mitzuteilen, daß wir das gesamte Warenlager der Firma Max Weg, Leipzig C 1, Inselstr. 20 erworben haben. Wir bitten Sie daher, bei Anfragen und Aufträgen über wissenschaftliche Literatur, die Sie bislang an die Firma Max Weg gerichtet haben, sich nunmehr an uns zu wenden. Wir und unsere Schwesterfirma Karl Max Poppe unterhalten seit jeher auch auf den Spezialgebieten der Firma Max Weg, die ihre Geschäfte nicht weiterführt, gleichfalls ein umfangreiches Lager, sodaß sich nunmehr für unsere Kunden in erhöhtem Umfange die Möglichkeit ergibt, auch ins einzelne gehende Spezialwünsche mit Erfolg und zu bestmöglichen Bedingungen zu erfüllen.

Wir halten uns Ihren Diensten mit ganz besonderem Vorzug gewidmet und zeichnen

hochachtungsvoll

BUCHHANDLUNG GUSTAV FOCK G.m.b.H.





~~XXXXXXXX~~ 41 Roby Road,

Dec. 26, 1939

Mr. E. P. Hamilton, Vice-President,  
John Wiley and Sons, Inc.,  
440 Fourth Ave.,  
New York, New York

Dear Mr. Hamilton:

In reply to yours of Dec. 21 in re a proposed text of geomorphology I also am aware of the elementary character of Lobeck's book. Notwithstanding it fills a real need and I use it as a reference book for students who have inadequate preparation for a course in Physiography of the United States. I do not use it as a text and it certainly would not do for a text in the course in advanced physiography which I sometimes offer.

In regard to the proposed book by Prof. Maxson the main objection I would have is that most of his papers seem to have been in other lines of geology and so far as I know he has not made any striking contributions in the field of geomorphology. One would certainly give preference to a book by a man who has discussed controversial matters in print and who has proved that he can think for himself. Possibly Prof. Maxson's book may have the right spirit but it would not, so far as I know, have any previous works to support it.

Very truly yours,



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LONDON  
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11, HENRIETTA STREET, W.C.2

December 21, 1939

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisc.

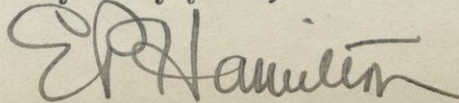
Dear Professor Thwaites:

I am taking the liberty of writing you about a proposed Geomorphology, with the hope that you may be willing to express your confidential opinion of the proposal and of the author. I can best describe the proposal by quoting from an interview by our representative, Mr. Theodore Coburn, with Dr. J. H. Maxson of the California Institute of Technology:

"Lobeck's Geomorphology is a good book but too elementary in that it covers most of what the student studies in physical geology. Maxson will drop it after this year and write his own. It will be a real Geomorphology, pre-supposing a course in physical geology such as is covered by Longwell, Knopf & Flint's Physical Geology. It will start with an historical introduction, followed up by a treatment of stream processes after the style of William Morris Davis. Reference will be made to controversial viewpoints such as Johnson's and also to the works of the Germans who have done some fine things along these lines. Mineralogy will be omitted completely. The Davis treatment will no doubt strike fire from some men, but the issues have never been settled and there is a strong group who prefer the Davis ideas. Maxson took all his degrees here, B.S. in 1927, M.S. in 1928, and Ph.D. in 1931. He may not have enough outside and field experience but he makes a good impression."

We would indeed be very much indebted to you for any comments you may care to make, and as I said before, they will be considered strictly confidential.

Very truly yours,



Vice-President

EPH/FP



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NEW YORK

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January 3, 1940

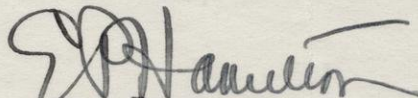
Professor F. T. Thwaites  
41 Roby Road  
Madison, Wisc.

Dear Professor Thwaites:

Thank you very much for your letter of December 26th, in which you kindly replied to ours of the 21st in reference to a proposed text on Geomorphology. We were very glad to have your confidential remarks on Professor Maxson's work. Certainly we agree with you that a man, to be an author of even an elementary textbook, should have made some real contributions in the field he will cover. I think about all we can say to him is that we would be glad to have the opportunity of examining his manuscript when it is completed.

Again thanking you for your help in this matter,

Very sincerely yours,

  
Vice-President

EPH/FP



xxxxxxx 41 Roby Road,

Jan. 12, 1940

Mr. Doxey A. Wilerson,  
Room 4611 Chrysler Bldg,  
New York, New York

Dear Sir:

Yours of Jan 2 to my late father is at hand.

In reply I may state that my father passed away  
in 1913 and as I am not in touch these matters I do  
not feel like attempting to answer any of your questions.

Very truly yours,



EXCERPTS FROM THE REPORTS OF SEVERAL  
CAREFUL STUDIES OF THE NEGRO  
IN AMERICAN HISTORY TEXTBOOKS

"The typical story of the Negro as told in American histories for school use starts with the group of Negroes brought to Jamestown, Virginia, in 1619, shows how slavery developed and affected American life, describes something of the status and work of Negro slaves, shows the inability of the Negro to take advantage of the political status accorded him during the Reconstruction Period, and winds up with some account of the Negro since emancipation. Pictures usually reflect slave life. Ignominious characteristics are almost always attributed to the group as a whole; in fact, rarely is any other type of characteristics mentioned."

"\_\_\_\_\_ reports that there have been Negroes in America for more than three hundred years, and that they were slaves for two hundred and fifty years of this time. No mention is made of the free Negro during slavery, or of the Negro bondservant, or of the marked and varied development of Negro life since emancipation."

"This briefly is what the writer found in the twenty histories studied: Not one of the twenty even hints that Negroes had any part whatever in the revolutionary struggle; not one mentions their participation in the Spanish American War, in which, along with Roosevelt's "Rough Riders," they were commended so highly by the rough riding Colonel himself; only one of the twenty histories mentions--and that only in a single line--that there were Negroes in Andrew Jackson's Army at the Battle of New Orleans; one text mentions the fact that there were Negroes in the Federal armies in the Civil War, but gives no suggestion as to their numbers or the quality of their service; though 200,000 American Negroes saw service in the World War, some of them with notable distinction, our twenty histories leave us in utter ignorance of that fact. One text recounts a humorous story about a single Negro soldier in France, but that is all. In brief, seventeen of the twenty books leave the student in complete ignorance that any Negro ever rendered the slightest service to the flag of his country, while the other three give but a faint suggestion of the facts."

"The place and development of the Negro in the national life are ignored almost completely."

"The material found in these books is entirely too limited to afford.....future citizens.....an adequate basis for judgment and the development of a wholesome attitude in regard to this (the Negro) question."

"One of the authors tells us that in several of the state legislatures Negroes outnumbered white men. As a matter of fact, this was not true of 'several states,' but of only one. In four other states Negro voters outnumbered the whites, but nevertheless elected legislatures that were predominantly white, three to one, five to one, even ten to one. In every case they elected white governors."

"It must be admitted also that not all the Negroes who achieved political positions in those days were ignorant, venal, and vicious. There were among them in the several legislatures and in Congress a number of men of fine intelligence, good education, and unimpeachable character--men who took their duties seriously, and attempted to play the part of patriots and statesmen. Our histories, however, give us no suggestion that there were any exceptions to the rule of ignorance, incompetence, and brutal indecency on the part of the Negroes in Reconstruction days. In fairness they might at least have quoted John B. Gordon, the noted Confederate general, who replied, when asked how the Negroes behaved after the war: 'they have behaved so well that the remark is not uncommon in Georgia that no other race



on earth relieved from servitude under such circumstances as they were would have behaved so well."

"Furthermore, no credit is given the several governments of this period for any constructive legislation whatever; yet these governments must have done some decent things. They all framed state constitutions, which in most cases were retained for many years after reconstruction ended. They established the free school system in the South, certainly one of the most progressive and important steps ever taken in this section of the country. The student is left to suppose, however, that the sole contributions of the Reconstruction governments to the Southern states were arrogant brutality, indecency, graft, and mounting debts. Some effort to balance the picture--to set the lights over against the shadows--would have been not only more humane and helpful, but more accurate history as well."

"References to the Negro in the indexes of these volumes are fairly representative of the place and dignity accorded the race in the text. The following are typical: In one of the books 'Slaves' is the only mention in the index; in three others 'Slavery.' 'Negroes - See Slavery' is very common, sometimes with the addition 'See Reconstruction.' 'Negroes - Problems of' is the only listing in one book."

"In the matter of Negro progress and leadership one finds only four names mentioned in the entire twenty volumes."

"Says one writer: 'The Negroes, guided by their white leaders, formed an association known as the Loyalty League for the purpose of keeping the white race under foot. They committed murder, arson, and crimes of every kind. The white people could get no protection from the courts. Organizations were, therefore, formed among the whites for self-protection. The most famous of these organizations was the Ku Klux Klan.' Another describes the use of intimidation, fraud, and bribery to deprive the Negro of political power as a 'necessary resort.' The effect upon the pupil can hardly be other than to suggest that force, rather than reason, is the only effective means of dealing with Negroes. This evaluation of the Reconstruction period and of the operations of the Klan is characteristic of nearly all the books. Some of them glorify the Klan quite frankly; others by implication."

"With relation to the present-day conditions of the negro one finds very little--and even that is not always to be depended upon. For example, in one history written in 1931, we find the statement that 'in a few states Negroes outnumber the whites.' As a matter of fact, as early as 1900 this was true of only two states, and in 1930 it was true of only one. Every decade the proportion of Negroes grows less. To leave the pupil with the contrary impression that the South is in danger of being overrun by a preponderant Negro population certainly is not conducive to normal attitudes and helpful relationships."

"On the matter of suffrage one of the authors, referring to the earlier Ku Klux methods of 'intimidation, fraud, and bribery' as 'unfortunate,' goes on to say: 'The present method, although an evasion of the 15th amendment, is effective and renders unnecessary a resort to fraud and intimidation. Under the new constitution of Mississippi only 8,615 out of 147,000 Negroes of voting age were registered. In Louisiana the number of Negro voters fell from 127,000 in 1896 to 5,300 in 1900. The North and West have to a large extent acquiesced in this condition.' The pupil is left to suppose that all this is quite as it should be, and that the question of Negro suffrage is properly and permanently closed."

"Contrary to reputable current usage, many of the texts still spell the word 'Negro' with a small 'n'."



# THE NEGRO IN AMERICA

AN INQUIRY UNDER THE AUSPICES OF CARNEGIE CORPORATION OF NEW YORK

405 LEXINGTON AVENUE • MURRAY HILL 6-7530

NEW YORK

GUNNAR MYRDAL  
DIRECTOR

January 2, 1940

ROWENA S. HADSELL  
SECRETARY

Mr. Reuben G. Thwaites  
Author of History of the United States  
c/o Houghton, Mifflin and Company  
432 Fourth Avenue  
New York, New York

Dear Mr. Thwaites

Incident to the Carnegie Study of the Negro in America, an analysis is being made of information about the Negro which is included in, or omitted from, a group of widely used textbooks in American history. We solicit your assistance, as the author of one of these books, in interpreting our findings.

Our analysis, together with those of several careful students of the question, reveal that, in general, the materials about Negroes which are included in textbooks in American history are: (1) far too limited adequately to interpret the role of the Negro in the development of our national life; (2) restricted unduly to the Negro as slave, largely ignoring (a) his significant contributions to all of the nation's wars, beginning with the American Revolution, (b) eminent Negroes who, by any reasonable criterion, must be adjudged as outstanding American leaders, and (c) the notable progress of the Negro people since emancipation -- in education, in industry and business, in art and literature, in politics; and (3) frequently distortions of fact (especially as regards the reactions of Negroes to slavery, reconstruction, etc.), and so "colored" as to "justify" in the mind of the student the past as well as current undemocratic abuses to which the Negro people have been subjected in our national life. Illustrative in this regard is the enclosed sheet of miscellaneous quotations from several studies of the Negro in American history textbooks.

Now, we seek a valid interpretation and appraisal of these findings. As the author of an important textbook in the field (to which the above characterization may or may not apply), and hence, one who has experienced whatever problems there may be in writing about Negroes in textbooks designed for use in the public schools, you are in position to express judgments and to recount incidents which should give us valuable insights into the situation here described.



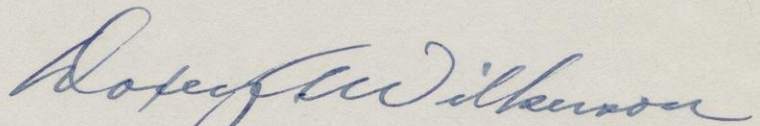
Please give us your frank -- and confidential -- reactions to the following questions.

1. Do the positive contributions of the Negro to the development of our nation warrant much fuller interpretation than is generally given in textbooks in American history? (Explain and illustrate.)
2. Should American history textbooks, remaining true to historic fact, seek deliberately to stress such materials as may further the development of wholesome understandings and truly "democratic" appraisals of the historic role and contemporary position of the Negro in American society? (Explain and illustrate.)
3. What practical considerations, if any, tend to deter textbook writers from such interpretations of the Negro as are suggested by the above two questions? (In this connection, please record specific incidents -- drawn from your own experience as an author, or from the experiences you know other authors have had -- which are illustrative of whatever "checks" may confront textbook writers in handling materials about the Negro.) Have you met, or do you know of, tacit or overt "pressures" from publishers, school textbook commissions, organizations, etc., which have sought to effect a certain type of interpretation of the Negro in American history? (Please explain fully.)

We shall be grateful for whatever judgments and information you may supply regarding the above three questions, or any other aspect of the problem here involved. Though we may wish to use parts of your comments in our report, your identity as their author will in no way be divulged.

For your convenience, we enclose a stamped addressed return envelope.

Very truly yours



Dorey A. Wilkerson

DAW.hcs



5 E. Fairchild  
Iowa City, Iowa  
Mar. 24, 1940

Dear Mr. Thwaites,

I am enclosing the map that my father has checked over. A few of the additional houses have been added since 1936, but the roads are the same. And of course there have been no changes in topography.

I am anxious to see your report when it is finished. Do you hear anything from Bertran or from Von Eiff? That was good training you gave us; it was just the right preparation for my reconnaissance work in Southwestern Iowa. By the end of this summer I hope to have my report on the insoluble residues of the Missouri and Virgil series of Iowa finished and will send you a copy. There are definite suites of residues characteristic of certain horizons which can be found over wide areas. The area I studied was about 10,000 square miles. Exposures were widely scattered. Present correlations have been largely tentative or erroneous. However, by studying the residues, both the coarse and the clay portions, both quantitatively and qualitatively, it is possible to make some pretty definite correlations. After unsnarling the stratigraphy we hope to be able to work out some of the structure. At present it seems quite improbable that there is a simple "Thurman-Wilson Fault", although there is a series of structures known to exist in that part of the state. There also seems to be a north-south structure extending through Hawleyville and the eastern part of Montgomery County of the same magnitude as the "Thurman-Wilson Fault". Its presence has been known for some time, but it has not been given the publicity it deserves. Perhaps the oil companies will be able to give us the data we need so badly.

Dr. Tester is back from South America now and is fitting into academic life quite nicely again. Walter Schuldt is getting his degree this spring. Apparently he has no definite plans for next year although he received a rating in the Civil



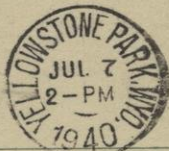
Service examination last spring and may become a government Junior Geologist.  
I saw MacCormick and Bays in Illinois last fall. Both of them seem to be quite prosperous, especially Carl.

Give my regards to any of the other "old-timers" there.

Sincerely,

*E. H. Wenberg*





THIS SIDE OF CARD IS FOR ADDRESS

Mr. F. J. Thwaites  
Science Hall  
Madison, Wis.



Sat. July 6

Dear Mr. Shwaiter:

Your pkge received today  
when we came into town  
for mail. Thanks very  
much. What is the total  
bill?

We will start our  
topography next week,  
and we are hopeful the  
rain we had this week  
marks the end of the  
rainy season. On the  
other hand, maybe it  
marks the beginning.

Other work going fine.

Ray Wilcox

4 160

6 = 240

36

2.04

24

12



~~XXXXXXXX~~ 41 Roby Road,

March 28, 1940

Mr. E. H. Wenberg,  
5 E. Fairchild,  
Iowa City, Iowa

Dear Mr. Wenberg:

Thank you for yours of the 24th with corrections to the map kindly furnished by your father. It would appear that the vicinity is growing in population which is not the case in most rural districts.

I was very glad to hear of your work in Iowa. I was through that country in '24 looking at Pleistocene exposures.

We have a new man, McKinstry who is taking Leith's place in economic. Nowell is getting a lot of the fellows to go out west. They will dig into their pockets for that where they do not care to go to Devils Lake in the footsteps of so many others. I don't blame them as I have always felt the same way about teaching a field course there.

Last reports indicate Bays out of a job also McCormick when the war closed out their supplies.

The report on northeastern Wisconsin is slowly moving toward completion. Bertrand was here Christmas but I have not heard from Voneiff. The former is at Stillwater, Oklahoma, the other in Texas,

Sincerely,



xxxxxxx 41 Roby Road,

May 15, 1940

The Rath Packing Co.,  
Waterloo, Iowa

Attention Mr. Muth

Gentlemen:

In reply to your letter concerning Mr. Leon J. Wyer all I can say is that he was in one of my classes last semester. He was a good student and seemed to attend to his work very well. However, the class was fairly large and my contacts with him were not such that I could learn much of his personal habits and relations to others. For this reason I am unable to answer several of your questions. I should think from what I know that he would be all right but I do not get to know students whose major subject is not geology as intimately as those who specialize in that subject.

Very truly yours,



# THE RATH PACKING COMPANY

PORK ~~AND~~ BEEF PACKERS

WATERLOO, IOWA

May 13, 1940

Prof. F. T. Thwaites  
University of Wisconsin  
Science Hall  
Madison, Wisc.

Dear Sir:

LEON J. WYER

CHARACTER REFERENCE -- We are considering the above young man for our Student Salesmen's Training Course. If he is accepted, it is our plan he will later represent us as a salesman.

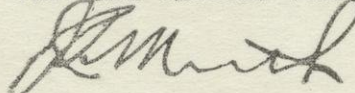
According to his application, he was a member of one of your classes while he was in college. If you remember him or still have his record, we would appreciate your writing us in confidence about him.

Was he a good student? How did he get along with his teachers and fellow classmates? Did he appear to be a leader among his classmates? Was he a good mixer and did he make friends readily and hold them? Would you consider that he would make a good salesman? Have you ever known him to indulge in alcoholic beverages? What were his habits, pleasures and hobbies?

Your prompt reply will help us to favor his application. Any other information you may care to give us will be appreciated and held in strictest confidence.

Yours very truly,

THE RATH PACKING COMPANY



Sales Manager

GC  
F-#1192



# Coe College

Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

May 28, 1940.

Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Mr. Thwaites:

This year I am on sabbatical leave from Coe College and working for the University here at Columbus, Ohio. I wanted to work on the stratigraphy of coal but the botanists wanted some work done on the peat deposits of the state so that is what I am doing. It has been possible, however, to collect a good many coals which I will work up later. The peat work has made several interesting contributions to Quaternary geology, one of which I want to tell you about. I have been much interested in the Toronto interglacial deposits since I came here and by working the Ohio material and the several Aftonian deposits in Iowa I have come to the conclusion that the Canadian deposits are of Aftonian Age. For some time I was of the opinion that they were essentially the same age as the Two Creeks deposits, but the work in Ohio upon drifts of Tazwell and Cary age show that the plant succession since the deposition of those drifts could not possibly produce a vegetation such as is fossil at Toronto. I have been investigating an interglacial deposit of Yarmouth age near Cincinnati and have at present more than a score of mosses, and five beetles, as well as many leaves and wood specimens. The ecology of the deposit appears to be a boreal one. For some time I felt that the Toronto deposits might be of Yarmouth age instead of Aftonian, but the more boreal nature of Yarmouth time has argued against that. On the sixth of next month I am going to James Bay to collect some peat for comparison work in Ohio. On the way up there I will be able to collect some coals and visit the localities of interglacial deposits.

I hope you have had a good year. I tried to pay Madison a visit last month, but I spent too much time near Chicago and had to hurry back home. We will be glad to get back to Iowa in the fall. I will be ready to teach again for I have missed it very much. The association with the geology department here has been very interesting and I have enjoyed the course work that I have had. We will go west again this summer and spend most of the time in the Wind River Mountains. Last summer seven of us climbed the Grand Teton as well as over most of the glaciers in the Teton Range.

Best regards,

*L. R. Wilson*

L. R. Wilson



XXXXXXXX 41 Roby Road,

Jan. 29, 1940

Mr. Edwin Wenberg,  
Dept. of Geology,  
Iowa State University,  
Iowa City, Iowa

Dear Mr. Wenberg:

At last I had a print run of the detailed map of the district around your home and am enclosing one.

If you could go over this and see if I have made any boners in interpreting the photos which were taken in '38 I would be most pleased to find out about it. It was very hard to pick up houses for the Indians do not have barn yards and lots of barns and sheds as do most whites. Also I had to estimate ( a polite way of saying guess) several elevations. There is no hurry about this as I cannot possibly finish the report until next fall.

Mrs. Thwaites and I were at the Minneapolis meetings and were sorry to not find you.

Best regards,

Sincerely,



~~XXXXXXXX~~ 41 Roby Road,

July 15, 1940

Mr. Ray Wilcox,  
Hammeth Hot Springs,  
Yellowstone National Park, Wyoming

Dear Ray:

Thanks for your card of the 6th. The cost of the paper was 40 cents a sheet less 15 percent which makes a total of \$.04 I had to get six sheets as they decline to sell anything but an even number. However, I will take off your hands any which you do not use and will sell it to the next mapping class if nobody else wants it.

We are now out of quarantine. Tommy was the only one to have the measles as the shots were so strong the others did not have anything. Both are in summer school now.

Hole is located at Marshfield and working hard on deep tests. When last heard from he was (like most drillers) tied up with a fishing job. He was digging down 11½ feet to recover the lost auger!

I am making good progress on illustrations but it is hard and tiresome work and uncovers a lot of errors due to the too great haste on a well-known assistant of mine!

Sincerely,



Yellowstone Park, Wyo  
Sat, Aug 24

Dear Mr. Thwaites: —

Please pardon the long delay  
in remitting the \$2.06 for the  
mounted paper.

We have used nearly all of  
it so there will be no  
necessity for you to worry about  
peddling it after we get back.  
Thank you very much for  
your trouble in obtaining  
it for us.

I hope your summer  
has been as enjoyable  
as mine. Although I look  
forward to seeing Madison  
again, I know I will look  
backwards next winter  
to the free & easy (?) life in  
the field.



Outside of bears, wildcats,  
mountain lions and fire  
hazard, we have been living  
the life of O'Reily. We will  
break camp sometime around  
Labor Day and plan to be  
back home by about the 15<sup>th</sup>  
after visiting Butte, Homestake,  
et al.

Give our regards to all the  
folks at home & at the  
building.

Sincerely,  
Ray Wilcox



## Coe College

Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

Dec. 9, 1940

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

Thank you for your letter of the 5th. I am very much interested in what you are proposing to call the Mankato drift east of Minnesota. The Minnesota and Wisconsin deposits have not been clear to me and the suggestion of yours looks good. You state in your letter that the Winegar moraine lacks non-pitted outwash. I wonder if you have seen the area five or six miles north of Trout Lake where there is an unpitted plain out in front of the Winegar moraine. Since this unpitted plain is composed of sand with considerable red clay in it, I have interpreted it as the outwash plain in front of the Winegar moraine. The width of this plain is nowhere more than three quarters of a mile, but I have seen it in several places north and northwest of Trout Lake. The fossil evidence for age relationship between the Winegar moraine and that area which is the pitted outwash plain near Trout Lake rests upon the stages of forest succession in that region. When the ice was leaving the Winegar moraine the forest cover on the pitted outwash plain had passed through the spruce stage and was in the red pine stage while the Winegar moraine was being covered by spruce forests. This is essentially the story that I found in Douglas County between the deposits of Lake Duluth and Lake Algonquin in age where we know that there was an interval of time.

I wonder if it would be possible to include your latest map in my final report on the peat deposits of Vilas County? I will not be able to get that ready



**Coe College**

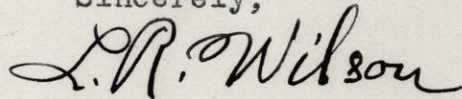
Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

before next spring. When you have your map published I would appreciate a copy of it. If you have another of your glacial geology outlines in preparation I would like to place an order for one when it appears.

Best wishes.

Sincerely,

A handwritten signature in cursive script that reads "L. R. Wilson". The signature is written in dark ink and is positioned above the typed name and title.

L. R. Wilson  
Associate Professor  
of Geology

LRW/ra



~~xxxxxxxx~~ 41 Roby Road,

Dec. 12, 1940

Professor L. R. Wilson,  
Coe College,  
Cedar Rapids, Iowa

Dear Professor Wislson:

In reply to yours of the 9th a lot of new roads, fire lanes and trails have undoubtedly been opened in Vilas County since the last time I was there in 1928. It was my impression at that time that there are kettles in the outwash right up to the Winegar moraine. But nevertheless you may be right and I did overlook a narrow discontinuous belt of non-pitted outwash. However, I doubt if the very wide moraine can be wholly of Valdors or Mankato age with so narrow an outwash deposit. It seems as if there is a ground moraine of red till on an older moraine as is the case in eastern Wisconsin.

I have no map later than the one already published of part of Vilas County. I will talk to Broughton and see if he and his partner care to finish up the map from their surveys. At last report they did not seem to have much to show. They borrowed a stereoscope and only kept it an hour or so. There are a lot of drumlins in the eastern part of the county which show up very nicely in the aerial views.

The new edition of the Outline may not be out for two years yet. I will probably get another reprint of the 1939 edition which would hold me about that long. I do not want to have to hurry in finishing a new revised edition.

With best regards,

Sincerely,



# Coe College

Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

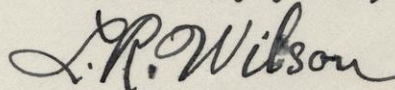
December 2, 1940

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

I was in Madison last Thursday but was unable to see you. I have a paper about ready to publish dealing with the comparative ages of peat deposits in Vilas county. In the discussion of the deposits south of the Winegar Moraine I have noted the existance of evidence which would suggest considerable difference in age with those deposits in and north of the moraine. I have been wondering to what Wisconsin sub-stage you are now assigning this moraine. I have in my mind compared it with the northern most moraine in Douglas county. Since both moraines are largely composed of red lake clay, and the pitted outwashed plains in front of them are composed almost entirely of sand and gravel. I have interpreted this difference to mean a recession of the ice, which deposited the sand and gravel, to some point in the Lake Superior Basin, and a readvance to the terminus of the Winegar Moraine. I have thought of the Winegar Moraine as fifth Wisconsin, but I have not been able to study the problem further as I have not been in the region during the past three years. I believe you have had a student working in that country and have come to some more definite conclusions. If you will kindly criticize or confirm the above ideas I would appreciate it very much.

Sincerely yours,



L. R. Wilson  
Professor of Geology

L.R.W./fb



41 Roby Road,

Dec. 5, 1940

Prof. L. R. Wilson,  
Dept. of Geology,  
Coe College,  
Cedar Rapids, Iowa

Dear Professor Wilson:

Sorry you were unable to see me when in Madison.

I will certainly be glad to see a copy of your paper on Vilas County. My latest map puts the Winograd Moraine as the border of the Valdora drift. This is a new name to replace both the numerical terms and the name Mankato for drift east of Minnesota. I do not feel that the age relations and areal continuity of the Patrician and Kewadin drifts are established beyond doubt. I am abandoning numbers as too inflexible. On the other hand, I do not see how the Winograd moraine can be wholly of Valdora age. It has no non-pitted outwash. I feel rather that there is a thin layer of red till on an older recessional of Cary age which formed before the ice blocks in the outwash to the south had melted. Cooper finds evidence in Minnesota that there were still some ice blocks left in the Patrician drift during the Kewadin advance. This conflicts with time relations as shown at Two Crooks.

Some of Boan's men tried to complete my map in Vilas County by using aerial photos but I have not seen their results. F. D. Holo is working on the extra-morainic drifts farther south. My report on northeastern Wisconsin is nearly done. I have had much trouble in following the edge of the red till (Valdora) in the Marinette County district.

Best regards,

Sincerely,



41 Roby Road,  
Madison, Wis.,  
March 27, 1941

Mr. E. H. Wenberg,  
121 E. 4th St.,  
Tulsa, Oklahoma

Dear Mr. Wenberg:

I was very glad to get yours of the 9th for I often think of you while working on the northeastern Wisconsin report. I have checked a lot of the geology up there from the aerials and drawn some contour maps from them. I am, however, constantly improving my methods. Enclosed is the latest version of an exercise for the Mapping class. In fact I held up my answer to your letter until this was ready. It isn't the last word but you may be interested in the non-mathematical treatment of the subject. One great difficulty is using the stereoscope is the large percentage of cross-eyed persons who cannot get binocular vision. I spent much of this afternoon trying to teach one such who has had an operation on the eye muscles and is now wearing special prism lenses. I think I may succeed with him. Many, however, have one eye weaker than the other or else they have habit or turning one eye away ~~one eye~~ whenever they concentrate. Still others simply can not avoid converging the eyes and so cannot see separately. An interesting experiment is to see how many are able to dispense with the stereoscope entirely and see with "eyes front". Some get that the first trial must most just can't make it ever. It took me many months to get the hang of it but now I can do it at will and it certainly saves a lot of time. I am slowly buying aerial verticals for use in physiography and glacial geology. Many can be used without the stereoscope, of course. In this years glacial class I think only a minority are able to see with that device and most of them had previous experience. We have a set covering much of the Arbuckles, a lot around Devils Lake, some sand dune views in Wisconsin, and some for the glacial field trips (not enough yet). I also bought myself a set covering McCaslin Mountain and assigned a student to map that area in detail with their help. He gave up the project and now I am recomputing his notes and drawing a topographic map myself. The camp where we stayed in '36 has been entirely removed! Well, the study of aerial views is certainly fascinating and I keep on finding new things that way. We also have a set for the vicinity of Madison which I plan to use for the field areas there.

I hope that there is no oil boom near the Oklahoma lands we let go for taxes last year! One tract was in the Ouachitas, the other in Delaware Co. so I do not look for such a calamity.

Packing for Devils Lake is under way already for a month from now the trip (23 all told this year) will be over. We all look for a big slump in the fall for many will be drafted by then. Guess I can't give you much news for most of those now here were not when you were. Twenhofel is Chairman now and has introduced a lot of changes. McKinstry has taken Andy's place. C. K. is still wondering when the war will start (at other times you would gather that it has already started) at Washington. But we keep busy with the present and so do not have time to worry over the future. I hope to send in the report on northeastern Wisconsin soon. Mrs. Thwaites is now working on it at the other side of the table now the three boys are all safely asleep.

Glad to hear from you any time,

Sincerely,



121 E. 4th St.  
Tulsa, Okla.  
March 9, 1941

Thwaites  
ce Hall  
ison, Wis.

Dear Mr. Thwaites,

As you can see from the above address, I am now in Tulsa, the oil capital of the world. And I'm doing what I last saw you doing in Madison, --studying aerial photographs under stereoscopic lenses. At that time you were considering incorporating that type of study into the laboratory training of your physiography class, and I've often wondered what success you had. It seems that such an important type of physiographic study should be taught more in our universities.

After graduating from the University of Iowa in February of this year I came to Tulsa, looking for employment. Fortunately, as the result of a civil service examination, I was offered a temporary appointment at Rolla, Missouri as an ore microscopist. But there was also an opening in the aerial interpretation department of the Seismograph Service Corporation in Tulsa. The latter position seemed more permanent and to be more in my field of specialization. So I chose the latter type of work and have remained in Tulsa.

The man in charge of our department is Louis Desjardins, a former assistant to Dr. Fenneman. He constructed most of the maps in Fenneman's Physiography of the Eastern United States. So you see he is well qualified for this type of work. By careful stereoscopic study of aerial photographs we are able to construct topographic, areal geologic, and even structural maps. Of course all field data recorded in the literature are utilized, and if the area is nearby, a small amount of field study is used as a check. This type of geologic prospecting is more rapid, less expensive, and in many cases more accurate and more detailed than ordinary field methods. This is especially true of exploration in foreign countries and in thinly populated parts of this country where transportation of land parties is difficult and base maps are poor or lacking. It looks as though aerial photographic interpretation of physiography is one of the most promising geologic fields of the future.

I was sorry not to have been on the Tri-state field trip into central and northern Wisconsin last fall, but was employed at the time by the Ohio Oil Co. in making a reconnaissance survey of southwestern Ohio. All the fellows at Iowa City who had gone on the trip were enthusiastic about it. It gave them an opportunity to see igneous and young Pleistocene geology they had never seen before. That guide book was pretty clever.

Walter Schuldt is employed by Carter Oil Co. He was



originally stationed in the Dakotas, then transferred to Illinois, and now expects to be transferred to Tulsa within a short time. Three new fields have been opened up in central Oklahoma within the last week or so, and it looks as though Tulsa will have another oil boom.

How is your report on the glacial geology of northeastern Wisconsin progressing? Dean Kay and his assistant, J. B. Graham, are planning to publish a volume on a part of the Pleistocene geology of Iowa within a year or so.

Please give my regards to the rest of the department and keep me in touch with its activities.

Truly yours,

*E. H. Wenberg*



Feb. 17, 1942

Dr. E. H. Wenberg,  
1321 S. Carson St.,  
Tulsa, Oklahoma

Dear Wenberg:

I have been meaning for some time to thank you for the note on your Christmas card. I got a copy of T. M. 5-230 and found it on the whole better than any of the texts I have read. I am now going to teach aerial mapping not only to the mapping class but to a class of 60 in Military geology. The former is small, 11 at last count and we apparently will not be able to go to Devils Lake thus breaking a custom held ever since '22. But no vacation, no tires and a power plant under construction just south of the Lake are just too much!

The man with Weidman must have been E. A. Frederickson Jr. who is Mrs Thwaites' first cousin. They seem to like him very much down there. He is to come up for his Doctor's here soon, I think. The mappers are still struggling with some of your barometric readings of '36. I made a map of McCaslin Mt. from the aeriols last year but still have no certain-sure sea level connection so have not sent it in for publication. The report on northeastern Wisconsin is still hanging fire but is no longer in my hands. Very likely it will be postponed "for the duration". Now I want, despite the war to turn my attention to a number of lesser problems which were postponed for the longer report.

With best wishes,

Sincerely,



June 4, 1942

My Weekly Reader,  
400 S. Front St.,  
Columbus, Ohio

Gentlemen:

There seems to be a mistake in filling our subscription  
for the Weekly Reader. I am sure we asked for Edition B  
Please change to edition B Address label is enclosed

Very truly yours,



6415 Barnaby Street N.W.  
Washington, D.C.  
January 27, 1943

Dear Prof. Thwaites:

I am making application to the Officer's Candidates Class of the U.S. Marines and I need 5 letters of recommendation. Would you please write one of these?

My draft deferment has expired so it is urgent that I get my application in as soon as possible, consequently I would appreciate it if you would make the correspondence at your earliest convenience.

You may send the letter to me or to the following address---

U.S. Marine Officer Procurement Office  
1320 G Street N.W.  
Washington, D.C.

Thank you very much for helping me out at this time.

Sincerely yours,

*Theodore R. Walker*

Theodore R. Walker



Jan. 30, 1943

Mr. Theodore R. Walker,  
6415 Barnaby St., N. W.,  
Washington, D. C.

Dear Mr. Walker:

In reply to yours of the 27th I am sending the letter of recommendation to the Office Procurement Office as per your directions. Hope you will get the job.

The Geology Department is just about out now. Last semester I gave two courses with 5 and 6 finishing respectively. This semester I cancelled two of mine. Tvenhofel has a few, Emmons also in advanced work but there is only one graduate student. Emmons, Winchell and I are all teaching physics which is going bigger than ever. I have not met Happing yet so that may go through. Military geology fell from 60 to 7. Geology 1 is about 40 and 17 about 10 or 12. The building resembles a morgue and is "blackout" most of the time. Marvel has left for a better job. Even the girls have left one married, another to an oil company. Ootking is still here, also Vervill and Hoffman but everyone is expecting to be called at any time as they are in the Reserves. Henry Holson was in the other day as snow and fog have curtailed flying at Glenview. He expects to go to Texas soon.

Best regards, Sincerely,



Jan. 30, 1943

U. S. Marine Officer Procurement Office,  
1320 G. Street N. W.,  
Washington, D. C.

Gentlemen:

In reference to the application of Theodore R. Walker for the Officer's Candidates Class Mr. Walker was a student in my class in Mapping in the spring of 1941. We spent eight days in camp doing field work at Devils Lake so that I came to know him very well. I found that he was a very hard worker and stuck to the job even when conditions were very trying. I never found any reason to question his loyalty to the United States and think he would make a good officer.

Very truly yours,

F. T. Thwaites,  
Assistant Professor of Geology



# Coe College

Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

May 13, 1943

Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Prof. Thwaites:

I am late in acknowledging the receipt of your latest paper, the "Pleistocene of part of northeastern Wisconsin". Nevertheless, I want to thank you for the reprint and tell you that I appreciate having it. The manner in which you have presented the problem is very graphic and certainly shows how geology can best utilize visual aids. I hope you will work the adjacent regions, especially those to the northwest.

Last Saturday I was in the field with Drs. Trowbridge and Hershey, examining a deposit of halosite. On our return to Cedar Rapids we went over some of the problems of the Iowan drift that have been troubling me. Dr. Trowbridge was impressed with the variety of topography along the Iowan border. Since Dr. Kay's retirement from active field work Dr. Trowbridge is taking over the Pleistocene work in the state. He has asked me to work with him in this region. It is an opportunity that I appreciate very much.

The army has practically taken over my teaching schedule. Fifteen hours a week are spent in geography for the cadets. Fortunately I teach only the physical part of the course and can pass the classes along to other members of the faculty when economic and geopolitical problems arise.

I do not think I wrote to you about my trip into Southwestern Ontario last summer. I have always felt poorly prepared to handle the Pre-Cambrian rocks, even though I grew up in a region where they outcrop. Therefore, last summer I took four students and we did the north shore of Lake Superior to Port Arthur and then took the road northwest to Kenora. There is plenty of Pre-Cambrian in that region and also some very interesting Pleistocene. We made some good collections of



# Coe College

Cedar Rapids, Iowa

DEPARTMENT OF GEOLOGY

minerals and rocks. Also, I was able to pick up four peat sections. These have been worked up and will appear as a paper in volume 50 of the Iowa Academy of Science. One of the most interesting Pleistocene deposits that we found are extensive varved clays in the region of Dryden and westward. I did not realize that the region had had such a large glacial lake. Apparently a portion of Lake Agassiz extended into that part of Ontario. If I am wrong on the name of the lake I would appreciate the correction.

This year my summer will be spent in Iowa and if you have occasion to visit the state I hope you will stop to see me.

With best wishes,

*L. R. Wilson*

L. R. Wilson,  
Associate Professor

LRW:lms



Dec. 14, 1943

Ens. Sidney Wells,  
Air Combat Information Center,  
U. S. Naval Air Station,  
Norfolk, Virginia

Dear Mr. Wells:

I was pleased to get your recent letter and was all set to answer it when suddenly taken down with the mild form of flu which has been so prevalent here recently.

Yes, I am still doing some business at the old stand in Science Hall. I say some because the only work on my own is down to three students, namely three girls and a blind man. I also have a lab. section in Engineering geology which Trencher is giving now. But the main part of my time is taken up with Physics. You see I rashly volunteered early in the war. I thought nothing of it until I was called about a year ago. At first I had only two sections and was pretty raw and inexperienced. However, either they liked me or else there simply was nobody else but I was recalled in June and put in charge of 105 V-12 sailors and about half that number of civilians. I had them a semester starting in July but in their second semester I have only three quiz sections and have at last been trusted to enter the holy-of-holies, the Laboratory. Of course I have to do all experiments myself in advance which takes a lot of time. Besides, I have the two geology sections. The two days I missed with flu were the only time to myself since July 4 and a lot of Sundays and evenings went into the job too. But it is interesting. On the whole, morale has been good among the sailors although a lot had to be dropped at the end of the first semester. The Navy also gives exams and they are pretty hard-boiled over grades all the time. 10 demerits are charged up for an unexcused absence and with those there is no shore leave. But you probably know more about this side of the business than I do for our contacts are indirect. The C. O. sends his orders to the Dean of the College of Engineering who forwards them to us.

We did get to Devils Lake for Mapping in 1943. The party numbered 11 of which only 7 were new students. We had the usual two girls but were lucky to combine the jobs of chaperone and cook. We also had the old C. C. C. camp with coal stoves, two bathrooms, refrigerator (with free snow), in fact most of the comforts of home. We stole two days besides the short vacation and had a fine time. This was the one and only field trip pulled off in all of the Geology Department last spring.

I have missed many of the boys when they were back here because I was away so much of the time at Sterling Hall. Shaw is or was in charge of some Naval barracks at Memphis. Nelson is instructor in flying near Chicago. Robock and Seeger did find me at Sterling. The former is out west now with the U. S. G. S. Ruth Tomlinson is married and was living at Rockford, I think Shinnery is still here. Guess he was rejected. The others are all in the Army or Navy so far as I know but were I have not been informed. Of last year's class all the boys but one is in the Army or Marines and the exception was rejected and is still here.

I was glad to get your boost for Mapping. I might even get up a class this coming spring though I doubt it. There were lots of well samples during the summer but they few now. Please pardon the sloppy typing but am still



AIR COMBAT INFORMATION CENTER  
U.S. NAVAL AIR STATION  
NORFOLK VA.

Dear Mr Thwaites,

I've meant to write this letter for quite awhile because I keep on running into people who know you. I stopped in at the Museum of Natural History to see some friends in the Landfall Technique School where they are trained to reproduce land forms in models for landing operations, showing pilots what a target looks like, etc.. Dr. Lobeck was over from Columbia giving a lecture. I ~~stopped~~ introduced myself and when I mentioned U. of W. he immediately spoke of you. He apparently holds you in high regard and has pleasant memories of pushing around the state with you. The next day in Washington I was at the Navy Photographic Interpretation School where I saw Bull Bailey. He is a student there now but has had some routine duty at Norman Oklahoma up until now. He told me that Dan ~~Wilson~~ Turner is over



in the Hydrographic office. I have also met Gerth Hendrickson. I think he is at the Navy Photographic School in Pensacola. Another man I've met from Wisconsin is Edwin Wenberg who got his masters at Iowa; I believe. I've lost track of him now, but he went to Sandfall Technique School in August after completing Photographic Interpretation. I've had quite an instructive nine months in the navy. I started out at Officer indoctrination in Rhode Island, had a months duty in a station photo lab, went to Photo. Interp. School in Washington during June and July when the city was hotter than the hubs of hell. I next went to Chapel Hill NC, the cadet pre-flight school, for a month because I was slated for another school back in Rhode Island which <sup>at the time</sup> didn't have an opening for me. This school is called Air Combat Intelligence School and trains men to be a good met nurse for Navy squadrons. Very interesting and exacting curriculum. After that I attend a school which tries to teach A.C.I. officers how to combat submarines which are quite nifty enemies. Being



Nov. 16, 1944

Mr. R. H. Marshall, Vice-President,  
First National Bank,  
Madison 1, Wisconsin

Dear Mr. Marshall:

I looked up the geology of the tract  
in Atoka Co., Oklahoma in the K. T. Wood Estate, namely  
in sec. 33, T. 2 S., R. 13 E.

This land is in the edge of the Ouachita  
Mountains just a short distance from the Coastal Plain.  
It is too far east to show any favorable indication for  
oil. No production has been found in these rocks which make  
up the mountains. The tract on which I hold the mineral  
rights is on a different series of formations. I am  
of the opinion that the Wood tract has no oil possibilities.

I wish to remind you in writing that the  
house in this Estate on which inheritance tax was paid  
was not turned over to all the heirs.

Very truly yours,



THE UNIVERSITY OF WISCONSIN  
MADISON

COLLEGE OF LETTERS AND SCIENCE  
OFFICE OF THE DEAN

10 December 1943

Professor F. T. Thwaites  
Science Hall

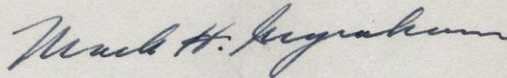
Dear Professor Thwaites:

The Department of Geology and the  
Executive Committee of the Faculty Division of Physical  
Sciences have recommended that you be accorded tenure.  
President Dykstra and I approve this recommendation.

This is not an action of the Board of  
Regents, which has final authority in all matters of  
appointment, but is an expression of intent on the part  
of the administration.

In connection with tenure questions reference  
is made to the Faculty recommendations in Document 584a.

Sincerely,



Mark H. Ingraham  
Dean

MHI:M



# GEORGE PEABODY COLLEGE FOR TEACHERS

NASHVILLE 4 • TENNESSEE

February 29, 1944

Professor F. T. Thwaites  
41 Roby Road  
Madison 5, Wisconsin

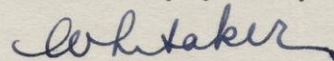
Dear Professor Thwaites:

Thank you very, very much for the information regarding your "Outline of Geology." We are ordering a copy through our college library.

I have heard from the Department occasionally through Mr. Finch and Durand. Needless to say, I am very happy that Durand is now located in this part of the country. I wish that it were possible to have a visit with you.

It is odd that I should hear from you today, because I was thinking about you this morning. I just received from Putnam a copy of his paper, entitled "The Physiography of Southwestern Ontario." You may possibly remember when Putnam and some others called on you and talked with you about your map, showing the various types of glacial terrain. At that time, you gave these men considerable encouragement by saying that you planned to do nothing on southwestern Ontario until they had been able to carry out their work. This paper sums up their findings, and I am hoping that it is sufficiently detailed so that you can use it and the earlier paper which dealt with Ontario east of the Niagara escarpment in blocking out your glacial map. I am writing to Putnam, suggesting that he send you a copy. Possibly he has already done so.

Sincerely yours,



J. R. Whitaker

JRW:SPE



Nov. 16, 1944

Mr. R. H. Marshall, Vice-President,  
First National Bank,  
Madison 1, Wisconsin

Dear Mr. Marshall:

I looked up the geology of the tract  
in Atoka Co., Oklahoma in the K. T. Wood Estate, namely  
in sec. 33, T. 2 S., R. 13 E.

This land is in the edge of the Ouachita  
Mountains just a short distance from the Coastal Plain.  
It is too far east to show any favorable indication for  
oil. No production has been found in these rocks which make  
up the mountains. The tract on which I hold the mineral  
rights is on a different series of formations. I am  
of the opinion that the Wood tract has no oil possibilities.

I wish to remind you in writing that the  
house in this Estate on which inheritance tax was paid  
was not turned over to all the heirs.

Very truly yours,





TRUST DEPARTMENT

# THE FIRST NATIONAL BANK

ESTABLISHED 1854

MADISON, WISCONSIN

Zone #1  
November 4, 1944  
Our 91st Year

Mr. Frederick T. Thwaites  
41 Roby Road  
Madison 5, Wisconsin

Dear Mr. Thwaites:

We are prepared at this time to make a distribution amounting to \$3,000.00 to those persons entitled to receive the same from the Kent T. Wood Trust.

There is actually in the account slightly over \$3,600.00 and the farm in Atoka County, Oklahoma. It has not been possible to dispose of the Oklahoma property for anything more than a nominal figure, and it is not at this time possible to convey the property to the heirs because of the fact that William D. Toole is missing in action and his status has not as yet been definitely determined. Upon advice of counsel therefore this bank, as trustee, proposes for the time being to continue paying taxes on the property and at a later date, when a sale can be made or title transferred to the heirs, another and final distribution will be made.

Receipt is enclosed in duplicate covering a partial distribution in the amount of \$500.00, both copies of which should be signed and returned to this bank, at which time a check will be forwarded to you.

Very truly yours,

R. H. Marshall  
Vice President

RHM/GW



In reply refer to:  
WMPR:CLHD

## WAR MANPOWER COMMISSION

WASHINGTON 25, D. C.

NATIONAL ROSTER OF  
SCIENTIFIC AND SPECIALIZED PERSONNEL

Dear Sir or Madam:

The National Roster of Scientific and Specialized Personnel is now recircularizing its registrants for the purpose of securing information which will bring its records up to date.

Since the Roster's records may well be utilized during the postwar period, as well as during the present war period, it is necessary that current information regarding all registrants be maintained. We are enclosing a Supplemental Information Form and an appropriate technical check list for this purpose.

It is most important that you complete the technical check list regardless of whether or not your status has changed, in view of the fact that the Roster has been obliged to change its standards for registerability and to revise its code classification system. The Supplemental Information Form should also be completed if there has been a change in your status since registration. If no change has occurred, please make a notation to that effect on the Supplemental Information Form. In the event you are now in the armed forces, please furnish detailed information concerning any non-confidential technical duties which would bear on your professional abilities. When the enclosed forms have been completed and returned, they will be attached to your questionnaire, which is now on file, and reviewed.

Your cooperation in executing and returning the enclosed documents as soon as possible will be appreciated. A self-addressed, franked envelope is enclosed for your convenience.

Sincerely yours,

*Leonard Carmichael*

Leonard Carmichael  
Director, National Roster

Enclosures



(OVER)



### SPECIAL INSTRUCTIONS

The Instructions Outlined Below Apply Only to  
Male Registrants Subject to Military Service  
Who are Not at Present in the Armed Services

Please notify the National Roster of Scientific and Specialized Personnel at once if you receive from your Selective Service Local Board an order to report for induction into the armed forces. In notifying the Roster, be sure to state:

1. Your full name.
2. Your present mailing address.
3. Your field of professional specialization.
4. The name and address of your Selective Service Local Board and your Selective Service order number.
5. The date of your induction.
6. Your National Roster Registration Number, if known.

The National Roster may, if such action appears warranted, transmit to the appropriate office of the armed services information concerning your special qualifications and experience. These procedures are designed to assist the armed forces in assigning inductees to duties in which their special qualifications will be advantageously used.

Obviously, the National Roster cannot take the action described above until it has on file an adequately filled out questionnaire describing your training, experience, and current work.

Please save this sheet as a reminder to notify the Roster if you change your employment or if you receive a notice of induction. Address the National Roster of Scientific and Specialized Personnel, Washington 25, D. C.



# WISCONSIN ACADEMY OF SCIENCES, ARTS AND LETTERS

Madison, Wisconsin

## NEWS LETTER

January 29, 1945

### FOREWORD

This news letter had its inception last summer when it appeared that some explanation was due the members of the Academy for the nondelivery of the 1943 Transactions.

Yes, by contrast it was, indeed, a long time since publication of the preceding volumes. Manpower shortages, coupled with apparent procrastination on the part of the printer, and inertia, perhaps, on the part of others in enforcing contractual obligations with respect to state printing, doubtless were contributive to the glacial speed with which the metamorphosis of edited copy to printed page seemed to be progressing. Because conditions later began to improve and prospects of publication earlier than the most optimistic of us dared hope for became brighter, the original motive for writing a letter began to lose some of its significance. It ceased to exist with the appearance of volume 35, which is now in the hands of all of you who were members of the Academy in 1943.

Enough of the original purpose remains, however, to warrant resumption of our project; besides which there is the 1945 annual meeting, our seventy-fifth, to provide a new point of departure.

### ANNUAL MEETING

President C. A. Dykstra of the University of Wisconsin, in inviting the Academy to meet on the Campus in 1945, expressed the hope that perhaps along with the University we might put on some significant event which will attract public attention and approval. The Council has accepted this invitation and has set the time of meeting for April 13 and 14.

The following committees have been appointed to assist the officers of the Academy in making arrangements for this meeting:

Program: Dean E. B. Fred, Chairman, Dr. E. P. Alexander, Prof. Philo M. Buck, Jr., Prof. C. A. Elvehjem, Prof. L. C. Noland.

Rooms and Registration: Prof. A. D. Hasler, Chairman, Prof. John W. Thomson, Jr., Prof. Glenn Trewartha.

Banquet: Mr. E. F. Bean, Chairman, Mr. N. D. Bassett, Prof. Emma L. Fisk.

Social Activities: Mrs. A. W. Schorger, Chairman, Mrs. M. H. Ingraham, Mrs. G. W. Keitt, Mrs. V. W. Meloche, Mrs. Oscar Rennebohm.

We hope that you will not wait for a special invitation to participate in the program of papers to be presented; that you will contribute something to making this meeting a significant one - anniversaries deserve it - and that you will make plans now to attend. It will be necessary to set a deadline for the receipt of titles of papers that the printed program may be sent out, as is our practice, in advance of the meeting. Therefore, please do not ask us to accept



titles after March 24th. An abstract of your paper, preferably not over two hundred words, should accompany its title. (See attached form.) These abstracts will be used in the preparation of news releases on the meeting. We have been promised assistance in this by the editor of the University's Press Bulletin.

#### BUDGET REQUEST

The biennial request for an appropriation of public funds for assistance in printing the Transactions has been made. On November 20, 1944, your officers appeared before the Legislative Finance Committee to present the Academy's request for financial support, or \$2400, for the next biennium. The following facts were emphasized: (1) that the Academy was incorporated by the State Legislature on March 16, 1870, at the request of a group of some forty-five prominent citizens of Wisconsin; (2) that among the seven stated objectives of the Academy was the formation of a library; (3) that this library, whose value has been conservatively placed at \$75,000, now consists of approximately 20,000 items, many of which are not replaceable; (4) that it has been built up by a world-wide exchange of our Transactions for the publications of 623 other learned societies, 492 of which are in foreign countries; (5) that the number of publications received from the above on exchange is 1,092; and (6) that the teachers colleges and liberal arts colleges in Wisconsin receive complimentary copies of our Transactions.

#### JUNIOR ACADEMY

That it may serve and stimulate the development of scientific activities on the part of youth, the Academy has expanded its activities by setting up the Junior Academy of Science for which it assumes sponsorship. This sponsorship presupposes a cooperative arrangement with Science Service, Inc., which administers Science Clubs of America.

Because of the suggestion which was made by last year's officers that participation in an activity of this type would constitute another off-campus service to the citizens of our state, the University of Wisconsin, not unmindful of the possibilities of being a factor in the discovery and development of scientific abilities and interests among the youth of Wisconsin, has implemented this program by providing the services of Dr. John W. Thomson, Jr., who has been appointed assistant professor of botany. The Council of the Academy, in turn, has appointed Dr. Thomson chairman of its Committee on the Junior Academy of Science. In his hands has been placed the guidance of the Junior Academy. He will devote his time not only to the supervision and management of the Junior Academy, but also to the encouragement of scientific work at the pre-college level. Steps have already been taken to recruit the personnel of this committee from among the high school science teachers with due consideration to their past or present key positions in the several district educational associations of our State.



#### NEW MEMBERS

In 1944, the Academy had 366 active members in good standing and 18 life members. New members elected since the April meeting of 1944 are as follows: Wm. J. P. Aberg, R. V. Bangham, Turner C. Bass, Carl A. Baumann, Kermit C. Berger, R. S. Campbell, August W. Derleth, C. W. Ellis, Conrad A. Elvehjem, John Guy Fowlkes, John L. Funk, J. E. Gajowski, Harriett M. Grace, Howard T. Groene, Orville E. Hays, R. M. S. Heffner, H. L. Hollister, Aaron J. Ihdo, S. Paul Jones, Fritz Kant, Ralph T. King, W. H. Liesch, John H. Lilly, Karl Paul Link, W. McNeel, John G. Ordway, Mary L. Petermann, Benj. S. Reynolds, Raymond J. Roark, George Ruegger, Clarence A. Scarlos, Komper Slidell, C. H. Sorum, Jack S. Supernaw, Hans Peter Thorsen, B. L. Von Jarchow, Sergius A. Wildo, Clement C. Williams.

Membership in the Academy is open to any person interested in the promotion of sciences, the arts and letters. A college degree is not a prerequisite for membership. If you know of anybody in your community who can qualify under these rather broad conditions, we suggest that you nominate him for membership, provided, of course, that by question or otherwise you are sure that he will accept election.

A nomination blank may be obtained from the secretary, Dr. Banner Bill Morgan, Department of Veterinary Science, 211 Genetics Building, University of Wisconsin, Madison, or from Dr. A. W. Schorger, 168 N. Prospect, Madison, Wisconsin, chairman of the membership committee. When the nominee has signed the blank in the form in which he wishes his name to appear in the directory, and has completed election by payment of the annual dues, a certificate of membership will be issued him upon formal action by the Council.

#### LIFE MEMBERS

Oscar Rennebohm, president of Rennebohm's Drug Stores, Inc., Madison, and now lieutenant-governor of Wisconsin, took out a life membership by payment of one hundred dollars. Joseph Curtis Ford, president of the Celon Company, Madison, by a similar procedure changed his status from active to life member. As required by the by-laws of the Academy, these fees have been added to its endowment fund, which now stands at \$4700.00.

#### RESEARCH GRANT

The research grant of \$81.00, allotted to the Academy by the American Association for the Advancement of Science for 1943, was awarded to Harold C. Hanson. Mr. Hanson plans to use this grant for aid in his research on the small mammals of southern Wisconsin. His results will be published in Vol. 36 of the Transactions. The 1944 research allotment of \$96.00 was granted to Dr. E. S. McDonough, Biology Department, Marquette University, to aid his research on the cytology and host-parasite relations of the downy mildew fungi.



On recommendation of the Academy's Natural Resources Committee, (Aldo Leopold, N. C. Fassett, E. F. Bean) a sub-committee on the ecology of the wolf in Wisconsin has been appointed by President Schmetto. The new committee, which is now functioning, is composed of W. S. Feeney, Chairman, Clarence Scarles, Ernest Swift, and George Ruegger.

Academy Librarian, H. O. Teisburg, states that back issues of the Transactions are available at the following prices, subject to change, without notice. Volume 1, \$10.00; Vol. 2, \$5.00; Vols. 3 to 19, a special offer of 25 cents each to members and 50 cents each to non-members; Vol. 20, \$10.00; Vols. 21 to 33, \$3.00 each, less 25 per cent. discount; and Vol. 34, \$4.00 less 25 per cent discount.

The Academy was one of several learned societies which had been invited to send an official delegate to the inauguration of Dr. Carey Croneis as fifth president of Beloit College on November 10 and 11, 1944. The Council designated the president of the Academy as its official representative.

Manuscripts submitted for publication in volume 36 of the Transactions have been reviewed by the Committee on Publication, of which Prof. Philo M. Buck, Jr., is the elected member, the president and secretary serving in an ex-officio capacity. Those accepted for publication are now in the hands of the state printer. About one-third of the titles pertain to the Brule River country. For this reason alone - there are, of course, other papers of interest - this volume promises to be an outstanding one. We wish that it could be distributed in time for the April meeting; perhaps it will be.

The Academy announces with regret the deaths of the following members: Ira Edwards, Milwaukee, Oct. 1943; G. C. Howard, Wausau, Dec. 14, 1943; J. G. Moacham, Racine, Sept. 10, 1942; R. A. Muttkowski, Detroit, Michigan, April 1943; A. R. Schultz, Hudson, Sept. 30, 1943; W. E. Tottingham, Madison, March 2, 1944; Chancey Juday, Madison, March 29, 1944; William Trelease, University of Illinois, honorary member since 1910, Jan. 2, 1945; E. R. Downing, Williams Bay, Sept. 10, 1944; Mrs. W. J. Devine, Madison, Aug. 29, 1944; and H. A. Buchler, Rolla, Missouri, March 14, 1944.

Manuscripts for volume 37 of the Transactions should now be submitted to the secretary. The deadline is June 30, 1945.

Governor Goodland has recommended that the Academy's request for \$2400 be granted.



PAPER TO BE PRESENTED AT MEETING OF APRIL 13-14

Return this sheet to Dr. Banner Bill Morgan, Secretary, Wisconsin Academy of Sciences, Arts, and Letters, 211 Genetics Building, Madison 6, Wis., so that it will be received by Saturday, March 24, 1945, at the latest.

Name \_\_\_\_\_

Address \_\_\_\_\_

Institution \_\_\_\_\_

Title of paper \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Time requirement for presentation (limit to 20 minutes or less, unless previous arrangements have been made) \_\_\_\_\_

Lantern needed? Yes \_\_\_\_\_ No \_\_\_\_\_

Abstract of paper (200 words) given below or attached hereto:



Chap IV p17

Weekman

whole page says nothing

p19 - description of soil faulty. Have seen this & think the soil is merely a layer in alluvial stream bottom.

The clay is deeply weathered & overlain by Wisconsin drift & cut by outwash valley of Wis. Page

p20. Barometta clays are clearly Wisconsin

p22 well round does not show what is claimed that clay is below the till

p29 II 2. - why respectable?

p34. Proof lacking of clays resting on drift that must be younger than Kansan. Proof from overlying alluvial deposits is worthless. If the Cumberland clays are same then they are pre-Wis. Loess is clearly not all Iowa.

p36. Correlation is admittedly weak.

p37. Evidence from leading shows it little greater than some known Wisconsin clays as at Ontario Bay

p38 - can't make anything out of this

p39. seem to be getting right idea for age of St. Croix

p40 - why appreciable? boulders ice carried?

p42 - ~~calcareous~~ deep carbonates are probably from pulverized dolomite as MgO is so abundant. Would like to compare ratios with that in adjacent western Marl is nearly all  $\text{CaCO}_3$   
all but  $\text{FeCO}_2$

p46 - Beaver Dam Lake is probably a glacial outlet

p48 - One has to undergo just such a mental revolution to understand this stuff !!!!!! \* \* ! ! ! , ? # ! ! !

p49 - Other views I can't understand English

p50. No evidence has been presented to show these conclusions. Bones, wood etc are valueless.

Large stones show ice action.

p52. Not suggested as there is no real reason to discuss - why clay shells?



what evidence of a single formation only when  
altitude, relation to drift, character, bedding etc all  
vary widely ???

Chapter as a whole is fairly good. The clays  
are probably pre-Wisconsin but why not glacial?  
Why not just phase of outwash of an older drift?  
Why all of same age? I even question seriously  
that the Cumberland clay is really overlain by Wisconsin  
drift but if it is why older than Wis? Seaching is  
great since water percolates slowly through the  
banks of ravines. Back further why not be so much.

- Chap V p 3. If scattered jobs & bldg - how  
recognized  
p 6 - Why general structure of till  
p 13, foot - here is real evidence! but its value is doubtful  
p 16 Drift topography on valley fill is absurd!  
p 20 T 2 - east for west - a typical Weidmanism!  
also "fresh looking" !!! ??? x + # \$ : , !!!  
p 21 - might be Seneca in age ???  
p 22 - middle T 3 why strangely ???  
p 34, I show some sense on question of degree of weathering  
p 40 - erosion confined to ice edge - , , , !!! - ever?

Chapter as a whole is poorest yet unless Chap #  
on Vermont interglacial stage. Absolutely no  
data are presented ~~to~~ as to why these stratified  
deposits are rep. from the Illinoian drift (stratified)  
It is not clear that the differences in weathering are  
due to age. The calling of valley fill, "drift" - is  
very misleading. No evidence whatever is  
presented as to age of these ~~drift~~ terraces or how  
they were dis. from the Illinoian terraces.  
The work is typically Weidmaniac!

Certain gleamings of reason can be seen in places.  
Weathering of sand no greater than that of proved Wis. age.



Depth of Flambeau Ridge?

Revise Table to names used in geol. of Wis., <sup>Proposed names</sup>  
omit name Mendota - & say Jordan & Madison <sup>used in this report</sup>

Outcrop of red ss: description indefinite

p 15 - Doubt like everything if Eau Claire ~~can~~ ever  
form cliffs - Jordan, & ~~Shelburne~~ (omit Simon?) do

Doubt the preplain p 16

p 22 How about the glaciation of several continents  
in Permian time

Chap II p 2 How could a Lake Mich. lobe come from Keweenaw

p 3 - p 2 - evidence is worthless as argument is of a  
diminution upland with outcrops filled valleys in ss  
see p 5 - ~~Chap II~~ 1

p 9 - "Faint" but has no meaning

p 15. Alteration not described -

p 26 expressing "ice lake"

p 31 st seq. ideas are absurd

p 34 - Lawford - Red till at Ashland !!!!!!!

Chapter as a whole pretty fairly free of error

Chap III - what being have rabbits & shrews on climate?  
Chapter contains only a few definite statements & is  
rather weak

2nd Chap III p 7. A totally unimpaired statement -

Chapter as a whole is very weak. The part that  
nearly all (I probably all) of the "Illinoian" is stripped  
leaves no clear proof of glaciation. It is clearly  
outward - whether Kansan or later we can't say.

Confidential



# Confidential

Chapman W. Morrison Drift.

p4 - Chiquamegon lobe probably never extended so far. Grants strial indicate this to be part of 2. Superior lobe, S.W. has constantly ignored strial except where they favor his view.

p6 - evidence that features are of pre-Wis age?

p7 - no attention paid to Beans work! Admitted that area was not closely studied though worked on for 15 years.

p8 - why only "appearance"? Is it time? It is not a new theory - that the lobation is due to slope of ice edge.

p10. In other words if drift is weathered it must per se be old & not a weathered place in the new drifts!

p11 why are silt loams not loess? How about outwash plain below Sadygsmith ???

p12 - W.P.: How could Wis drift help getting some quartzite from older drift?? Seems as if parts with little or no quartzite are classed as Wis. Whether as older.

p13 - glacial drainage during retreat is ignored

p14 ignores burial in blocks & irregularities of depth in rivers!! also effects of late glacial erosion drainage

If sep. of older outwash can be made why wasn't it?

p15. Is the valley fill till covered? Ask Bean why was not this ashier investigated?

p18. Quartzite does seem to be present. Would it not be concentrated in outwash?



p74 - why are striae so given? May be 1800 diff  
p80. Whole discussion of distinction of lobes ignored many factors  
sometimes are known in Cabott District etc traversed by  
Lab. ice. Red drift of Superior is not old. Ways of telling ice movement  
from striae neglected & properly as worthless. Shumlin is very weak.  
p85 = pitted outward may be compared with moraine p86 - ice blocks?

Only part here of Early Wis here.

the part probably covered by bank

p5 - drift swells on  
terrace - again?

p7 - Doubt Wis. def  
terrace

p10 - more erosion at  
embankment, since  
terrace must be pre-Wis.

p15 - have seen striae  
in trap

p22 - Only mapped where F.T.T. worked !!!

p23 These are large outwash plains, miles across of  
fresh, even sized gravel. & cut by river valleys of stage  
of glacial retreat, see maps of F.T.T.

p35. These features of drainage are about O.K.

p37. Idea of pitted outwash is rejected !!!

p37. moraine outwash all mixed up here.

p41. But these moraines are not mapped in detail

p43. I doubt these conclusions very much. would like  
to see this area again. R.T.C. must have known what  
he was talking about. There is lots of gravel & sand &  
undulations, pits do are to be expected also some  
area of older till not buried by gravel.

p44. Last work was erosion, pitted plains are ignored  
by S.W. p45 do. An unimportant slaps at RTC & L.M.

p46 - Topog. means nothing. Boulders must be outwash.

They have no boulders I think, p47. Top is nonsense

p68. Whole discussion ignores striae & is very weak.

I ignores superposition of gray drift also

p69 - generally accepted view is an item of evidence !!!



p 29. Strial in 35-10W see Bull 44  
 p 32. Whole section on glacial erosion gives no clear idea of what is being talked about

p 41. Whole discussion is vague. The blocked channels are clearly irregular outwash valleys of late Wisconsin age. I doubt if till deposits play any part. Some blocking in flat country was probably due also to landslides.

p 43. Diff in oxidation not related to diff in soil, topog & material

p 45. What side of ridges are the talus deposits

p 46. Top. Have seen this & it is true so far as it means anything

p 47. Top. Would like to see this. If true it deserves more than the 6 lines devoted to it. Have seen the Cumberland occurrence & it is distinctly not true. The valley cuts the moraine very clearly

p 50. Shows folly of my seventh older work.

p 56. bottom. Early Wis. is stratified! Is this the key? This chapter shows some approach to reasoning but is the Early Wisconsin really drift at all or is it residual glacial. Topography of an older stage

Correlation Table

S.W.	1st.	2nd
Wisconsin	Wisconsin	Wisconsin
Early Wis. fresh gravel with boulders	Residual <sup>Ill.</sup> Iowa topography	Residual old drift gravel with topography.
Iowan - fresh eroded gravel	Iowan <sup>Illinoian</sup> gravel etc.	Old eroded gravel not weathered
Illinoian weathered gravel	Kansan gravel	Old <sup>eroded &amp;</sup> weathered gravel
Kansan till	Kansan	Old till

Does not satisfy the whole thing. Strange that lithology should vary so with age!



Correlation of terraces

Not to be copied

p 73 - top - trained eye? Towan now hatched out in Illinois  
by Alden p 74. shows lack of knowledge of glauers.

p 75 same - Alaska valley trains are of boulders

This section is about the best yet. The occurrence of  
Barren quartzite in the terrace is certainly good evidence, but  
maybe the quartzite is not correctly recognized. I doubt its  
non occurrence in the Wisconsin. Besides Red Cedar River  
must have brought down quartzite pebbles & others may be  
of local derivation. The terrace in non-outwash valleys  
is just the same as the terrace in Rhyolite ones.  
The depth of weathering is about that usual in  
sandy Wisconsin drift plains.

Chap II p 29. fauna of loess not yet described

conclusions are fairly reasonable but care for  
Towan age is weak if there is no Towan drift.  
besides the loess does not come in contact with the  
Wisconsin drift. Origin in desert to west is reasonable  
but not proved or even necessary.

Early Wis. Drift p 4 - gravel again! p 5 - SW part of  
Polsk Co. Have seen this and it is true that some  
knobs & knolls are found outside the Wis. moraine but can't  
see why they should be another drift sheet than the main  
bulk of the deposit - bottom of page. position of moraines  
with ref. to drainage is usually not stated. This on divide  
suggests a residual area untouched by erosion & probably  
little weathered because gravel p 9. gravel again with no  
called "till" on top!! p 10. This moraine may very well be late  
Wisconsin & was once mapped as such,  
p 12. difficult to distinguish from Towan!!

p 15 East Devonian known nearer than Manitoba?

p 20 Have seen some of these lakes & they are peculiar  
but I can't think they have ever been under the ice. They are  
probably basins in outwash valleys.

p 21 - Only tentatively? p 25 Trenton is known near  
Keweenaw Point also.

p 27 - why fair degree of certainty?

unpublished



Sept. 11, 1945

Mr. Fred H. Moore, District Geologist,  
Magnolia Petroleum Co.,  
Box 535,  
Mt. Vernon, Illinois

Dear Mr. Moore:

In reply to yours of the 9th Mr. Thomas H. Walker was in my class in Mapping in the spring of 1939. My records show that he worked well in the field, got along with the other students well, and made a grade of B. However, as I do not think that I have seen him since I have little distinct recollection of him.

I also consulted the records of the Wisconsin Geological Survey which employed him for two field seasons in road material exploration. The report of his chief for the second season was much more favorable than for the first one. Mr. Bean, State Geologist, also says that his work was entirely satisfactory.

This is all I can tell you for I have not been in touch with Mr. Walker since when he was a student here.

Very truly yours,

F. T. Thwaites, Assistant Professor of Geology



Walker

# MAGNOLIA PETROLEUM COMPANY

A SOCONY-VACUUM COMPANY

P. O. Box 535  
Mt. Vernon, Illinois  
September 8, 1945

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

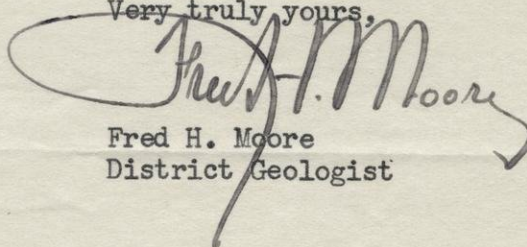
Dear Professor Thwaites:

We have received an application from Mr. Thomas H. Walker, a former student of the University of Wisconsin, who received his B. A. degree in geology.

We would appreciate any information you can furnish us relative to this young man. We are interested primarily in his scholastic ability, aggressiveness, and personality.

Thanking you for your consideration in this matter,  
I am

Very truly yours,

A large, stylized handwritten signature in dark ink, appearing to read "Fred H. Moore". The signature is written over the typed name and title.

Fred H. Moore  
District Geologist

FHM:gw

Walker      mapping 1939 B



March 21, 1946

Prof. L. R. Wilson,  
Dept. of Geology,

Coe College,  
Cedar Rapids, Iowa

Dear Wilson:

In reply to yours of March 20 I would be pleased to sponsor your name but unfortunately I am not a member of the Society of Economic Paleontologists and Mineralogists. Neither of these branches of science are in my line so that I never joined. I hope you can find someone to sponsor your name.

I am much interested in your entry into oil work and hope that you like it.

I hope to resume field trips this spring both in Mapping and in Glacial but have been having a terrible time with infected teeth. The dentist to whom I had been going failed to recognize the trouble until it got very bad.

With best regards,

Sincerely,



# Coe College

Cedar Rapids

Iowa

DEPARTMENT OF GEOLOGY

March 20, 1946

Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

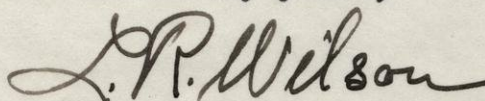
Dear Prof. Thwaites:

Recently Dr. Twenhofel and Dr. A. K. Miller have kindly offered to sponsor my application for membership in the Society of Economic Paleontologists and Mineralogists. It is necessary for me to secure one more sponsor and I am wondering if you would be so kind as to act in that capacity. If you will, I can send you the application blank within a few days.

Just recently I have signed a contract to work for one of the Standard Oil Companies on a part time basis. The work promises to be very interesting and may evolve into something rather important.

I hope you do not mind sponsoring my application. I will appreciate any help that you may give me.

Sincerely yours,



L. R. Wilson  
Associate Professor

LRW:co



Feb. 1, 1946

Dr. L. R. Wilson,  
Dept. of Geology,  
Coe College,  
Cedar Rapids, Iowa

Dear Wilson:

In reply to yours of Jan. 29 the Bibliography of North American geology is contained in Bulls. 746, 747, 823, 937, and 938 of the U. S. G. S. Surely your library has these although perhaps your librarian has not put them out by themselves so they can be used. They are absolute essentials in all geologic research. Extra copies can be secured from the Supt. of Documents at Washington or maybe through a congressman. I have a set at home and we have two or more in the library.

I was much interested in your remarks on Hobbs. I ignore most of his writings in my references.

Just now I am confined to the house with a swelled face, cause as yet undetermined. Probably it is a tooth although the dentist failed to find which one.

Best regards,

Sincerely,



# Coe College

Cedar Rapids  
Iowa

DEPARTMENT OF GEOLOGY

January 29, 1946

Prof. F. T. Thwaites  
41 Roby Road  
Madison 5, Wisconsin

Dear Prof. Thwaites:

Thank you for your letter of January 24th. I am glad to hear that you are getting out a revised edition of the "Outline." May I put in an order for a copy now and I will also have the library order one too when it is off the press.

We do not have the Bibliography of North American Geology. May I trouble you for the address of where I can get it and I'll see if it cannot be placed in our library?

At Pittsburgh I had a discussion with Hobbs about the Iowan drift. I cannot see where he has a single bit of evidence for his idea. He is a very difficult person with whom to discuss a controversial point so we got nowhere. His ventifact thesis is also most unusual. I am surprised that such an experienced geologist can ignore certain facts with such facility.

Sincerely,

*L. R. Wilson*

L. R. Wilson  
Associate Professor

LRW:co

746  
747  
823

937  
938



# Coe College

Cedar Rapids

Iowa

DEPARTMENT OF GEOLOGY

January 19, 1946

Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Prof. Thwaites:

I had hoped I would see you at the Pittsburgh meetings to talk over some Pleistocene problems that I have been working. They were good meetings and I met a large number of our Wisconsin people.

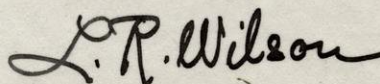
During the last six years I have been much interested in the region of James and Hudson bays. Especially the moraines north of Cochrane, Ontario, and the peats in the area of Lake Obijway. I am writing to ask you if you will kindly send me what references you can on Lake Objibway. I do not know the Canadian literature very well and seem to have difficulty getting at it.

Last spring I uncovered here in Iowa the finest Aftonian wood deposit yet. There were logs of spruce, red pine, oak and ash. The last three are new to that interval.

I hope you are getting back to post war conditions. We seem to be doing rather well at Coe College. My general geology class now numbers fifty-three, basic science, thirty, physiography, six, and geology majors, five. If plans of the present materialize I will take five fellows into the northern Cascades for a month next summer. I am rather anxious to see the glaciers out that way.

I wish it had been possible to visit with you at the meetings.

Sincerely,



L. R. Wilson  
Associate Professor



Jan. 24, 1946

Dr. L. R. Wilson,  
Department of Geology,  
Gee College,  
Cedar Rapids, Iowa

Dear Wilson:

I was very glad to get yours of Jan. 19. The reason I did not go to Pittsburg was that I needed all the time I could get to finish a now revised, enlarged and (I hope) improved edition of the "Outline". This is now almost ready to go to the publisher.

I am just starting the second semester and have to choose what to take Glacial. Although other classes of mine are small I have still two sections of Engineering Geology lab which will last another month. I cannot take time just now to look up the references you want. When Flint's new glacial map of North America is out it is to have a list of up-to-date references and will also make use of much unpublished information on Canada. I could only give you the references from the Bibliography of North American Geology. I presume you must have these volumes even if your library does not have all the books referred to. The bibliography goes only to the end of 1941. Please write me again if you do not have these.

Too bad I could not go to Pittsburg.



# Coe College

Cedar Rapids  
Iowa

DEPARTMENT OF GEOLOGY

April 11, 1946

Prof. F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Prof. Thwaites:

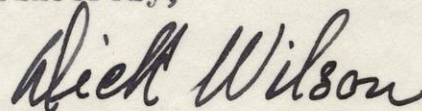
Thank you for your letter of March 21st, relative to my sponsorship in the S.E.P.M. While at the A.A.A.S. meetings, I mentioned to Dr. Trowbridge my plight in finding a third sponsor. He informed me that he was a charter member of the society and would be willing to sponsor my application.

You probably know that one of my students will be at Wisconsin next year. He is Mart Schemel and was awarded the Van Hise Fellowship. Anything that you did to help him get that appointment I appreciate personally and I am sure you will find that Mart Schemel is a willing student.

Later this spring I may make a trip to the Cave of the Mounds with several students. If I do, I would like to show them the department at Madison and I hope we can see you at that time. I will let you know a week or two in advance.

With much appreciation,

Sincerely,



L. R. Wilson  
Associate Professor

LRW:co



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MURRAY HILL 5-5302

April 8, 1947

Professor F. T. Thwaites  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

Early in April we will publish for Professor Richard F. Flint of Yale University a new book on Glacial Geology and the Pleistocene Epoch. Because we believe you will want to have this significant new contribution to the literature we are arranging for a copy to reach you under separate cover with the compliments of the author and publisher. May we request that you acknowledge its safe receipt so that we might complete our records.

We believe that Glacial Geology and the Pleistocene Epoch will become, upon publication, the authoritative source in the field. Briefly the volume intends to reconstruct the history of the glacial epoch drawing together data from many different branches of science. Although it is written for professional geologists, the terminology is such that it can be read by anyone who is curious about the Pleistocene even though he has only a slight acquaintance with geology. It is, without question, the first book to give a comprehensive picture of the Pleistocene of the world. Great stress is laid on the climatic point of view.

After you have had an opportunity to review carefully Glacial Geology and the Pleistocene Epoch we will be interested to have your comments and criticisms.

Sincerely yours,

*W. Bradford Wiley*  
Vice-President and Secretary

WBW:hs



April 8, 1921.

Dr. Samuel Weidman,  
University of Oklahoma,  
Norman, Oklahoma.

Dear Mr. Weidman:

I wish to thank you for the barometer and  
Hand level received this morning. I have been  
obliged to trace up all stray apparatus on account  
of the increased number of students we have to care  
for.

Yours very truly,

FTT-M

Geologist



March 29, 1921.

The Treasury Department,  
Bureau of War Risk Insurance,  
Medical Division,  
Washington, D.C.

Refer to:

C-501, 479  
Cpl. Co.B, 311 Engrs.  
HTC/no:10-Unit No.6.

Through Supervisor,  
District No.8,  
Chicago, Ill.

I first knew Mr. Ralph H. Wood as a student in the University of Wisconsin. He worked under my direction in a summer field course in geology at Tomah, Wis. in the summer of 1916. Later in the same season he was cook and geological assistant in the same State Geological Survey party that I was. I saw Mr. Wood frequently during the remainder of 1916 and for a time before he entered the army in July, 1918. Since his return from France I have seen him only a few times.

While a student before the war, Mr. Wood was a very bright and energetic student. In camp he was always cheerful and ready for work. He was very quick to learn and never seemed tired or out of sorts. Although of a nervous disposition that quality never seemed to interfere with his work.

Since the war I have not had as good an opportunity to observe Mr. Wood but it is evident from his appearance that he is not in a condition to do any regular work. This change it is fair to presume is in large part due to his experiences in the army.

I am in no way related to Mr. Wood.

State of Wisconsin ss  
County of Dane

Subscribed and sworn to before me, this the twenty-ninth day of March, A.D. 1921.



Expenses of F. T. Thwaites

Wisconsin Well Drillers Convention

Superior, Wisconsin

May 14, 1949

---

Transportation	\$19.55
Sleeper	7.35
Meals	2.55
Miscellaneous	<u>.85</u>
	\$30.30





# *The Commonwealth of Massachusetts*

## *University of Massachusetts*

### *Amherst*

#### DEPARTMENT OF GEOLOGY AND MINERALOGY

December 2, 1948

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, 6, Wisconsin

Dear Professor Thwaites:

Since my last letter to you a student in the department and myself have begun work on the Marshfield buried soil. We are having excellent results using a new method of pollen extraction. Since I received this material from Hole, I would like to secure his permission to publish the study. I also would like to secure a reprint of the paper he published in the Indiana Academy of Science Proceedings. I wonder if you can give me his address at the Soils Department. You might be interested in the preliminary count of the fossils. It is as follows: Sphagnum 1%, White Spruce 8%, Black Spruce 43%, Jack Pine 16%, Red Pine 3%, Birch 3%, Grass 18%, Composites 1%, Maple ? 1%, Unknowns 6%. When I did the examination for Hole several years ago I had real difficulty getting spores and pollen out of the material. With this new method we get a thousand or more specimens on a single microslide. I think that it is going to be worthwhile to reexamine the Forest Bed with this new method. I have some material with me, but it may be necessary to collect some more and work on micro-horizons this time.

With best wishes.

Sincerely,

*L.R. Wilson*

L.R. Wilson, Chairman  
Dept. of Geology and  
Mineralogy

LRW/ca



In reply to yours of the 2nd. Hole's address  
is room 204, Sailer Bldg, Madison 6, Wis. There  
is a large box of samples in the basement where Hole  
stored before the war. They must be from Marshfield.  
We have little left from the Forest Bed but expect  
to be there next summer. A portion of the  
original outcrop now belongs to Mrs. Winifred Smith,  
Wingham, R.I., Two Rivers. She has written it up  
in the newspapers so it is now much better known

than when you were there. Since my last letter  
I have begun work on the Marshfield shale and have  
received a new method of pollen extraction. Since I received  
one of my students, T. F. Lahay, lives in Two Rivers  
and is also well acquainted with the place. So  
far we have no new exposures but may follow  
up some <sup>well known</sup> <sup>coming</sup> <sup>this</sup> <sup>summer</sup>. The equipment used by Hole  
will bore to nearly 40 feet depth. We are not  
limited to surface exposures any more.

Sincerely,  
J. J. Thwaites

J. J. Thwaites, Chairman  
Dept. of Geology and  
Mineralogy



December 6, 1948

Professor L. R. Wilson, Chairman  
Dept. of Geology and Mineralogy  
University of Massachusetts  
Amherst, Massachusetts

Dear Professor Wilson:

In reply to yours of the 2, Hole's address is Room 204, Soils Building, Madison 6, Wisconsin. There is a large box of samples in the basement which Hole stored before the war. They must be from Marshfield. We have little left from the Forest Bed but expect to be there next summer. A portion of the original outcrop now belongs to Mrs. Winifred Smith, Wingham, R. I., Two Rivers. She has written it up in the newspapers so it is no much better known than when you were there.

One of my students, J. F. Lahey, lives in Two Rivers, and is also well acquainted with the place. So far we have no new exposures but may follow up some well records this coming summer. The equipment used by Hole will bore to nearly 40 feet depth so we are not limited to surface exposures any more.

Sincerely,

F. T. Thwaites





# *The Commonwealth of Massachusetts*

## *University of Massachusetts*

### *Amherst*

DEPARTMENT OF GEOLOGY AND MINERALOGY

November 18, 1948

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

Thank you for your letter of October 25 and permission to use your name as reference for the A.P.G.

Dr. Emmons has written me about a possible candidate for our Instructorship in the department. I am following up his suggestion. It is going to be difficult to get a man for what we are able to pay. The oil companies and others pay so much more than State institutions, but there are compensating factors in one's association with the University.

I am glad to hear about your work associated with Forest Bed. I hope you will discover some more exposures and if you do <sup>that</sup> you will give me the opportunity of studying the soils. We have developed some new techniques that enables us to get spores and pollen out of clays as well as from peat.

I am sorry to hear that Mrs. Thwaites has not been well. I do hope that she is continuing to recover. It is hard to realize that this is Tom's last year in high school. It seems only a few years ago since I was in Madison. Actually it is nearly fifteen years ago. Sometime during the summer we will probably drive through Madison and if you are there at that time I would like to stop at least for a few minutes and have a visit.

With best regards,  
Sincerely,

A handwritten signature in cursive script that reads "L.R. Wilson".

L.R. Wilson, Chairman  
Dept. of Geology and  
Mineralogy

LRW/ca



W

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My dear Dr Thwaites -

I very much appreciate the mimeographed material. I know already that there is much well organized material - and from a different or new-to-me approach. Although I won't be able to use it as you have, I know I shall do a better job because of it.

Inclosed find seventy three cents in stamps.

And my grateful thanks.

Sincerely

C. Clifton Aird



Oct. 25, 1948

Dr. L. R. Wilson, Chairman,  
Dept. of Geology and Mineralogy,  
University of Massachusetts,  
Amherst, Massachusetts

Dear Wilson:

Yours of Oct. 21 is at hand. Certainly, you can use my name as a reference.

I will follow up the request in regard to someone in structural geology as soon as possible but am not myself up on the possible candidates as I do very little advising. Emmons is now Chairman and takes care of these matters. I will give him your letter tomorrow.

The Department here is almost all new now since we lost five by resignations and retirements. It will not be many years before I too will have to leave, in the spring of '54 to be exact. Tyler and Emmons still represent the "hard rock" faction, however.

I am sorry, but I will not be able to go to the G. S. A. this year. New York is too expensive and then they have put the meetings during school time. Anything to favor those who live near there, I should judge. They turned down an invitation from us.

Hole is now in the Soils Department. I have started a survey of the area around the Forest Bed. Ken Bertrand of Catholic University is working with me. We are using aerial photos to map both topography and geologic boundaries. The good soils maps up there are also a great help and we hope to finish in record time because of these modern aids. I hope to include, with due credit, much of what you wrote on the Forest Bed. So far, we have been unable to find any more outcrops. It has been advertised in the local papers by some of the local writers but so far no new reports have come in. Guess we need some floods to wash out creek banks! The old exposures were still good in August. We are considering the hypothesis that the gray till area of Kewaunee Co. is a nunatak. We just could not find any Valdres till in it and it would help to explain a lot of otherwise perplexing data on direction of ice movement.

This is Tom's last year in Highschool. Last year he worked every night selling photographic supplies downtown. Mrs. Thwaites had another operation in August but otherwise we are all well. She is feeling much better now.

With best regards,

Sincerely yours,





# *The Commonwealth of Massachusetts*

## *University of Massachusetts*

### *Amherst*

#### DEPARTMENT OF GEOLOGY AND MINERALOGY

October 21, 1948

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

Recently I have applied for membership in the A.A.P.G. and I wonder if I may give the society your name for recommendation. Drs. Twenhofel, Trowbridge, and Hoffmeister are sponsoring my application. I need three other geologists for reference.

This summer after finishing the writing of the Carter Oil Report, I went to Switzerland and then to the Congress meetings in London. My paper received considerable discussion and I found it very worthwhile. I had an opportunity to meet a number of European geologists and also had several visits with Dr. Hudson, my first geology teacher at the University of Leeds.

*Ans'd  
RCE*  
The Department here at the University has grown considerably this year. Fortunately we were able to get two more men this year. I am looking for a structural geologist for next year. If you know of any, will you kindly let me know. The position will be an Instructorship and will pay approximately \$3000.

If you are attending the G.S.A. meetings this year, I hope that you can come this way and spend a few days with us. We can show you some interesting glacial geology.

With sincere good wishes.

Yours very truly,

A handwritten signature in cursive script, reading "L.R. Wilson".

L.R. Wilson, Chairman  
Dept. of Geology and  
Mineralogy

LRW/ca



W

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*F. I. Thwaites*  
*University of Wisconsin*  
*Madison, Wis.*

*11-9-48*

*My dear Sir:*

*The Geography Dept is to offer a course in Physiography, using Lobeck's text. Does the University have a syllabus or laboratory manual which can be purchased? Do you use stereos and aerial views? If so, do you know any company that compiles sets showing the various land-forms?*

*I would appreciate any help - any suggestion is a help.*

*Sincerely*  
*C. Clifton Aird*  
*Hist. Geog. Dept*

In reply to yours of Nov. 9, I have not used the book you mention for several years as it is not suited for advanced work. I now have a mimeographed text of my own which attempts a start on the foundation on which geomorphology must rest, something missing in all other texts. Can send you a copy but it has to be mailed first class. I have no laboratory outline and the University does not publish any. I do publish a book on glacial geology alone. Several books have been published on map interpretation but I do not use any of them. The U. S. G. S. formerly put out a set of maps. Lobeck also published some charts



December 1, 1948

Mr. C. Clifton Aird  
Michigan Tech  
Houghton, Michigan

Dear Mr. Aird:

In reply to your's of November 27, enclosed are mimeographed notes in geomorphology. Illustrations were never completed. There are some errors, mainly in typing, but a few in theory. If your department can refund the sixty-eight cents postage to our department it will be all right, but I do not think you need to pay it yourself. I hope you find the notes an introduction to a new method of approach.

Very truly yours,

F. T. Thwaites





*The Commonwealth of Massachusetts*

*University of Massachusetts*

*Amherst*

DEPARTMENT OF GEOLOGY & MINERALOGY

May 22, 1950

Professor F. D. Thwaites  
Department of Geology  
University of Wisconsin  
Madison 6, Wisconsin

Dear Professor Thwaites:

I am glad to hear from you and appreciate being invited to contribute a paper at the next A.A.A.S. meetings. At the moment, it is difficult for me to accept since this summer will be spent mostly writing. If it is possible to defer my answer until the end of June, I would appreciate it.

Recently, we received a section of a peat deposit and the tusk filling of a mastadon that was uncovered near Valparaiso, Indiana. Am I correct in stating that the time relationship of the mastadon and Two Creeks sub-interval is akin? The flora in the lower portion of the peat resembles very closely that of the Two Creeks Forest Bed. The break in the spruce-pine forest does not come until the middle of the section.

I feel the same way you do about membership in the A.A.A.S.

With best personal regards, I remain

Sincerely yours,

*L. R. Wilson*

L. R. Wilson, Head  
Dept. of Geology and Mineralogy

LRW/cb





# *The Commonwealth of Massachusetts*

## *University of Massachusetts*

### *Amherst*

DEPARTMENT OF GEOLOGY & MINERALOGY

October 24, 1949

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison 6, Wisconsin

Dear Professor Thwaites:

I have been intending to write to you concerning our success at the Forest Bed in August but I have been away from the University quite a bit and have had a very heavy administrative load this fall. We collected considerable wood and have it on hand expecting to contact Flint before sending it to Libby. I am writing to Flint this afternoon.

In the Forest Bed we dug out several nice exposures and cut channel samples for study. As yet, I have not unpacked any of that material. I tried to find more gastropod and insect excavations but had no success. I am planning to do a thorough spore and pollen study and review the former work. Since my first paper is out of print, I think this proposed study will be worth publishing. I will need one or two photographs and would like to use the one that shows the general exposure of the Forest bed that you took and is published in my paper. I hope that you can let me have a good 5" x 8" glossy print of that photograph. I will not need it for several months.

Recently, we discovered, here in Amherst, a buried peat containing a wealth of fruits and Indian corn cobs. Dr. Johnson was here last week and is very enthusiastic about the discovery. We hope to have the wood analyzed and its Carbon - 14 determined.

This year our department has grown tremendously. We now have four regular teachers and one teaching fellow. We are hoping to add another man to the staff next year.

I wish there had been more time to talk with you last August. One is not able to cover many subjects in a single telephone conversation. I may be out in Wisconsin again next June and hope to have a long visit with you then. With all good wishes,

Sincerely yours,

A handwritten signature in dark ink, appearing to read "L. R. Wilson".

L. R. Wilson, Head  
Dept. of Geology and Mineralogy





# *The Commonwealth of Massachusetts*

*University of Massachusetts*

*Amherst*

DEPARTMENT OF GEOLOGY & MINERALOGY

February 21, 1950

Professor F. E. Thwaites  
Department of Geology  
University of Wisconsin  
Madison 8, Wisconsin

Dear Professor Thwaites:

I have just received word from Dr. Libby concerning the radiocarbon dating of our Two Creeks Forest bed wood. Maybe you too have his January report. If not, I am sure you will be interested in the other items that appear in the report. The Two Creeks spruce wood is dated as 11, 200 plus or minus 740 years.

The Marshfield study is complete but needs to have the plates redone. As soon as they are ready, I would like to send the paper to you for reading.

With best personal regards.

Sincerely yours,

*L. R. Wilson*

L. R. Wilson, Head  
Dept. of Geology and Mineralogy

LRW/cb



February 27, 1950

Dr. L. R. Wilson, Head  
Dept. of Geology and Mineralogy  
University of Massachusetts  
Amherst, Massachusetts

Dear Wilson:

Thank you for yours of the 21st. I had received the results of the test of Two Creeks material from Flint with the reservation that it was not to be published. At his request I then divided the sole sample we have from Menasha and sent the larger part for a check determination. I have not had the latter acknowledge or any return from it. The new edition of the "Outline" will mention the method, with the statement that it is still experimental, but none as to results. However, the result is quite in line with some of my older estimates. It is rather hard to think that the ice advanced to Milwaukee and then melted back to the present in this time! But if the "postglacial optimum" was warmer than now it does seem credible. I would like to see some of the clays run by the other method as a check. Flint has not mentioned this but we might try to get him to suggest it.

We have a lot of samples from Marshfield but not one has disclosed a soil so far. All were drilled where an electrical survey suggested gravel below the first till. Below the gravel, and in places interbedded with it, is another till but there is no evidence of its relative age. I will be glad to read your paper.

We hope to go on the Two Rivers trip on the same day that the Wisconsin Society for Ornithology is to visit the Forest Bed and I am to expound it to them.

Sincerely yours,

F. T. Thwaites

FTT:ac



March 25, 1952

Mrs. Theron Wasson  
606 Thatcher Ave.  
River Forest, Illinois

Dear Mrs. Wasson:

In reply to yours of March 23 I do not think that the source area of any of the glacial boulders of Illinois is located either in Wisconsin or Michigan. The ice movement was south down Lake Michigan and hence that area is excluded. With regard to the bright red rhyolite porphyry there is none near Fond du Lac, Wisconsin although there may be some near Fond du Lac, Minnesota. However, it is far more probable that it comes from an area on one of the points of the Lake Superior east shore not far north of the "Soo". The quartzite boulders probably come from some of the Huronian formations northeast and east of the "Soo". Prof. Tyler says there are several different kinds of quartzite in that area. The basic igneous rocks also appear to come from that region. I have seen a gneiss quite similar to that found in the drift here in ledges at North Bay, Ontario.

I went to the G. S. A. at Detroit in November. All are quite well at home. Tome goes to Signal Corps camp in June. Bill will work in the State Highway laboratory and I will have to devote the summer to finishing a report on glacial geology of the Door County region.

With best regards.

Sincerely yours,

F. T. Thwaites

FIT:aes



Mrs. Theron Wasson

606 Thatcher Avenue - River Forest, Illinois

March 21, 1952

Mr. F. T. Thwaites  
Geology Department  
University of Wisconsin  
Madison, Wisconsin

Dear Dr. Thwaites:

I am trying to identify the locality in Wisconsin and Michigan from which some of our more distinctive glacial boulders may have come. We are hoping to make a boulder trail at The Morton Arboretum, Lisle, Illinois somewhat similar to the one in the Brooklyn Botanic Gardens.

Can you tell me the source of the red porphyry which has white feldspar crystals in it? I have been told there is an outcrop of this rock somewhere around Fond du Lac on highway 41 but the information was rather indefinite. Of course, we can identify the pink Baraboo quartzite. Are any of our gneisses and granites of the Chicago area distinctive enough to trace their source? Has anyone at Madison done any work on this subject?

Theron is attending the annual A.A.P.G. meeting in Los Angeles.

Kindest regards to you and Mrs. Thwaites.

Sincerely,

Sabel B. Wasson



November 13, 1951

Dr. H. E. Wright  
Dept. of Geology  
University of Minnesota  
Minneapolis, Minnesota

Dear Dr. Wright:

Enclosed please find description of the  
glacial wood reported by the former Mineral Land  
Survey. The place on the Brunsweller River, 400  
paces S. and 375 paces west of center of sec. 1,  
(NE  $\frac{1}{4}$  SW  $\frac{1}{4}$ ) T. 45 N., E. 4 W. Marengo quadrangle,  
just off Highway 13.

Sincerely yours,

F. T. Thwaites



DOMESTIC SERVICE	
Check the class of service desired; otherwise this message will be sent as a full rate telegram	
FULL RATE TELEGRAM	SERIAL
DAY LETTER	NIGHT LETTER

# WESTERN UNION

W. P. MARSHALL, PRESIDENT

INTERNATIONAL SERVICE	
Check the class of service desired; otherwise this message will be sent at the full rate	
FULL RATE	LETTER TELEGRAM
VICTORY LETTER	SHIP RADIOGRAM

1207

NO. WDS.-CL. OF SVC.	PD. OR COLL.	CASH NO.	CHARGE TO THE ACCOUNT OF	TIME FILED

Send the following message, subject to the terms on back hereof, which are hereby agreed to

To Bob Williams 9-5-1931

Street and No. 1/2 Buick Garage Phillips 66 Station

Care of or Apt. No. Kremmling Colorado Place Kremmling Colorado

As soon as you find proper size along route buy new

tube and tire

Shwautes

Send 35.00

7-2026

Wire city where I can telegraph money for new tube and tire

large to which

Telegraph office where

Sender's name and address (For reference)

Sender's telephone number



## ALL MESSAGES TAKEN BY THIS COMPANY ARE SUBJECT TO THE FOLLOWING TERMS:

To guard against mistakes or delays; the sender of a message should order it repeated, that is, telegraphed back to the originating office for comparison. For this, one-half the unreported message rate is charged in addition. Unless otherwise indicated on its face, this is an unreported message and paid for as such, in consideration whereof it is agreed between the sender of the message and this Company as follows:

1. The Company shall not be liable for mistakes or delays in the transmission or delivery, or for non-delivery, of any message received for transmission at the unreported-message rate beyond the sum of five hundred dollars; nor for mistakes or delays in the transmission or delivery, or for non-delivery, of any message received for transmission at the repeated-message rate beyond the sum of five thousand dollars, unless specially valued; nor in any case for delays arising from unavoidable interruption in the working of its lines.

2. In any event the Company shall not be liable for damages for mistakes or delays in the transmission or delivery, or for the non-delivery, of any message, whether caused by the negligence of its servants or otherwise, beyond the actual loss, not exceeding in any event the sum of five thousand dollars, at which amount the sender of each message represents that the message is valued, unless a greater value is stated in writing by the sender thereof at the time the message is tendered for transmission, and unless the repeated-message rate is paid or agreed to be paid, and an additional charge equal to one-tenth of one percent of the amount by which such valuation shall exceed five thousand dollars.

3. The Company is hereby made the agent of the sender, without liability, to forward this message over the lines of any other company when necessary to reach its destination.

4. Except as otherwise indicated in connection with the listing of individual places in the filed tariffs of the Company, the amount paid for the transmission of a domestic telegram or an incoming cable or radio message covers its delivery within the following limits: In cities or towns of 5,000 or more inhabitants where the Company has an office which, as shown by the filed tariffs of the Company, is not operated through the agency of a railroad company, within two miles of any open main or branch office of the Company; in cities or towns of 5,000 or more inhabitants where, as shown by the filed tariffs of the Company, the telegraph service is performed through the agency of a railroad company, within one mile of the telegraph office; in cities or towns of less than 5,000 inhabitants in which an office of the Company is located, within one-half mile of the telegraph office. Beyond the limits above specified the Company does not undertake to make delivery, but will endeavor to arrange for delivery as the agent of the sender, with the understanding that the sender authorizes the collection of any additional charge from the addressee and agrees to pay such additional charge if it is not collected from the addressee. There will be no additional charge for deliveries made by telephone within the corporate limits of any city or town in which an office of the Company is located.

5. No responsibility attaches to this Company concerning messages until the same are accepted at one of its transmitting offices; and if a message is sent to such office by one of the Company's messengers, he acts for that purpose as the agent of the sender.

6. The Company will not be liable for damages or statutory penalties when the claim is not presented in writing to the Company, (a) within sixty days after the message is filed with the Company for transmission in the case of a message between points within the United States (except in the case of an intrastate message in Texas) or between a point in the United States on the one hand and a point in Alaska, Canada, Labrador, Mexico, Newfoundland and St. Pierre & Miquelon Islands on the other hand, or between a point in the United States and a ship at sea or in the air, (b) within 95 days after the cause of action, if any, shall have accrued in the case of an intrastate message in Texas, and (c) within 180 days after the message is filed with the Company for transmission in the case of a message between a point in the United States and a foreign or overseas point other than the points specified above in this paragraph; provided, however, that this condition shall not apply to claims for damages or overcharges within the purview of Section 415 of the Communications Act of 1934.

7. It is agreed that in any action by the Company to recover the tolls for any message or messages the prompt and correct transmission and delivery thereof shall be presumed, subject to rebuttal by competent evidence.

8. Special terms governing the transmission of messages according to their classes, as enumerated below, shall apply to messages in each of such respective classes in addition to all the foregoing terms.

9. No employee of the Company is authorized to vary the foregoing.

1-49

## CLASSES OF SERVICE

### DOMESTIC SERVICES

#### FULL RATE TELEGRAM

A full rate expedited service.

#### DAY LETTER (DL)

A deferred service at lower than the full rate.

#### SERIAL (SER)

Messages sent in sections during the same day.

#### NIGHT LETTER (NL)

Accepted up to 2 A. M. for delivery not earlier than the following morning at rates substantially lower than the full rate telegram or day letter rates.

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#### FULL RATE (FR)

The standard fast service at full rates. May be written in any language that can be expressed in Roman letters, or in secret language. A minimum charge for 5 words applies.

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Overnight plain language messages. Minimum charge for 22 words applies.

#### VICTORY LETTER TELEGRAM (VLT)

Overnight plain language messages to armed forces overseas. Minimum charge for 10 words applies.

#### SHIP RADIOGRAM

A service to and from ships at sea. Plain or secret language may be used. Minimum charge for 5 words applies.



March 14, 1953

Dr. T. L. Walker,  
Dept. of Geology,  
University of Colorado,  
Boulder, Colorado

Dear Tom:

Thank you for yours of Jan. 22 with the colored slides. They were certainly very good. I will never forget our trip to Marquette. I am sorry there was so long a delay in thanking you for them but I kept forgetting to find out what they cost and then I am generally so tired nights that I just do not do anything which can be delayed. However, I am enclosing what they said at Remnebohs the cost was.

I am quite busy during the second semester. Mapping numbers 37 although I am afraid one more is leaving. Nordeng is helping me since the departure of Hroy for the east. I put out to heart cases when we started. Glacial numbers 21 and Physiography only 9. I eat lunch every day in the basement so as not to be disturbed by early workers. Well records are keeping up well, one of the last being an oil test in the pre-Cambrian gneiss at Avoca out on the Wisconsin River. Things are going well with the sole exception that I have no cooks for Devils Lake as yet. But I expect that will be cleared up soon.

I am glad you like it so well in the west. That country certainly has advantages over the east.

With best regards, Sincerely yours,



UNIVERSITY OF COLORADO

BOULDER, COLORADO

DEPARTMENT OF GEOLOGY

January 22, 1953

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison 6, Wisconsin

Dear Mr. Thwaites:

I owe you an apology for not having sent you the Kodaslide that I took on our trip to Lake Superior. I ran across them as we were packing our things for our move to Colorado. I am now mailing them to you under separate cover.

We have been in Boulder for about two weeks now and we get to like the city and the area better every day. This seems to be truly the land of sunshine, and the temperature every day since we arrived has been like April or May in Madison. I like the staff, the students, and the whole set-up here at the University and am looking forward to a life-time of good living out here.

Sincerely,

*Arthur L. Walker*



# WESTERN GEOPHYSICAL COMPANY

INTERNATIONAL

828 FOURTH AVENUE WEST  
CALGARY, ALBERTA  
CANADA

GENERAL OFFICE  
Pacific Mutual Bldg.  
Los Angeles 14, California

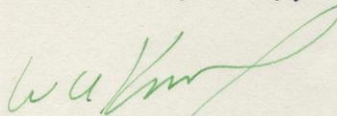
HOME OFFICE  
Apartado No. 1038  
San Jose - Costa Rica

Mr. F.T. Thwaites,  
July 29, 1952.  
Page 2.

in the possibility of a drift velocity of this magnitude since it could be somewhat higher than many near-surface formation velocities.

2. Can you give me any references on the subject of geophysical studies of glacial drift?

Yours very truly,



W.A. Knox.

WAK/pv



# WESTERN GEOPHYSICAL COMPANY

INTERNATIONAL

828 FOURTH AVENUE WEST  
CALGARY, ALBERTA  
CANADA

GENERAL OFFICE  
Pacific Mutual Bldg.  
Los Angeles 14, California

HOME OFFICE  
Apartado No. 1038  
San Jose - Costa Rica

July 29, 1952.

Mr. F.T. Thwaites,  
41 Roby Road,  
Madison 5,  
Wisconsin, U.S.A.

Dear Sir:-

I recently finished reading your booklet "Outline of Glacial Geology" and found it most interesting. My only comment is that I wish you could have included a study of the glaciation of the Western United States and Canada.

The presence of the drift overburden appears to have some effect upon seismic results in oil exploration. Its influence is due to variations in the thickness and to its very erratic velocity. If any degree of reliance is to be placed upon seismic reflection times, as a measure of the depth to oil producing structures, the erratic travel time delays due to the variable drift thickness and velocity, must be removed from the observations. Thus, a study of the velocity of sound waves in drift is most important. Attempts have been made to correlate velocities with types of glacial drift. For instance, it appears that sands have a very low velocity of up to 4000'/second, unsorted till may show compressional wave speed of 6500'/second, while stratified lacustrine deposits exhibit velocities up to 7500'/second. These observations are of a relatively local nature and should not be considered to be a general rule, although this velocity pattern seems to fit many areas in the three Western Canadian Prairie Provinces.

I would like to ask of you two questions:

1. On page 110, under the heading of "Geophysical Exploration for Drift", you note that velocities up to 9140'/second are observed in clay. Can you tell me something about your source of this information? I am very much interested



August 2, 1952

Dr. W. A. Knox,  
Western Geophysical Co.,  
828 Fourth Ave. West,  
Calgary, Alberta

Dear Sir:

In reply to yours of July 29 the source of my very slight amount of seismic data in the "Outline of glacial Geology" was "Handbook of Physical Constants", edited by Francis Birch, Geol. Soc. America Special Paper 364 1942. The section on "seismic velocities" is by Lee and Birch, pp. 93-102. This data is old and may easily be misleading. Prof. Woollard here tells me that one must differentiate between materials above and below the water table. He tells me that below water level velocities are all those of water and tell nothing of nature of material. He has done only a very little work in the glacial drift of this state and uses the refraction method almost exclusively. I do not think that any of his work on the drift has been published. He turned down a recent job on foundation testing because he found that the entire section is below water level. I finished the investigation by ordinary methods of sample examination and the engineers also used soil mechanics tests. I am afraid that I cannot give you any references which you do not have already in books on geophysics. I have learned to place little faith in electrical methods.

Very truly yours,



E. F. BEAN  
STATE GEOLOGIST

THE UNIVERSITY OF WISCONSIN  
GEOLOGICAL AND NATURAL HISTORY  
SURVEY

SCIENCE HALL  
MADISON 6, WISCONSIN

February 26, 1952

Mr. Roger H. Wood  
Tomah, Wisconsin

Dear Sir:

In reply to your letter of the 21st, what you have found appears to represent the warm period of postglacial climate which has been dated at something around 3,000 to 4,000 years ago. If this is correct, the peat above has taken about 2,000 to 3,000 years to form. The only way to be sure would be to get an age determination of the stumps by the radiocarbon method. Since we have now very few determinations of the age of this time of warm, dry climate, it is likely that I could get such a determination. If you could let me know when it would be possible to obtain a specimen together with a full description of the land on which it is found, depth, etc., we will see what can be done. We would like to check the exact spot in the field at the time of excavation.

Very truly yours

WISCONSIN GEOLOGICAL SURVEY

By

*F. T. Thwaites*

F. T. Thwaites, Geologist  
In Charge of Well Records

FTT cep

March 1, 1952

*Dear Sir:*

*I would think that the best time to get samples of the stumps and peat would be about around May 1st. as then the frost would be out of the ground and the weeds and grass*  
(over)



would not have as yet grown so high as to make it hard to see what one was doing. The above mentioned stumps and peat are along the sides of drainage ditches which were dredged in mine and in my neighbors land. I live only about one mile from the city limits of Tomah.

I have been interested in the ages of the peat etc. because I am confident that I know the reason for the advance and retreat of the ice sheets during the last ice age and probably also for all of the ice ages which the earth has experienced. The age of the peat etc. would help me check up on those ideas.

Yours very truly  
Roger W. Wood



WORLD MINING CONSULTANTS, INC.

MINING ENGINEERS & GEOLOGISTS

220 BROADWAY

.

NEW YORK 38, N. Y., U. S. A.

Suite 108  
1025 Connecticut Ave., NW  
Washington 6, DC  
May 24, 1954

Mr. Fred T. Thwaites  
University of Wisconsin  
Madison, Wisconsin

Dear Sir:

This firm has been selected by the Government of Portugal to carry out the technical and procurement work involved in a ground water resources survey of Angola in West Africa. The time involved will require two years and perhaps this will be extended to three years.

Two American experts are needed by us in this connection; one geologist who has specialized in ground water geology, and one master driller.

Your name was given to us by Dr. A. Nelson Sayre of the U. S. Geological Survey as a possible candidate for the position of geologist. We would be most grateful to you for your consideration of this matter and prompt reply.

Salary will be arranged along lines of your usual income plus approximately 25%. This would be tax-free, of course. Travel and living allowance will be paid in Portuguese currency. Dependents may be taken, if desired, as well as a reasonable amount of household effects.

It is contemplated to begin work within 30 days. If you are interested and feel you can undertake work in Africa for two years, we will forward data covering this matter. If not, please let us know. If you wish to be considered for this or any other similar work, please forward your curriculum vitae for our files.

Very truly yours,  
WORLD MINING CONSULTANTS, INC.

  
R. L. Hartzell

Manager, Washington Office

RLH:b



UNIVERSITY OF ILLINOIS

DEPARTMENT OF GEOLOGY

URBANA, ILLINOIS

July 12, 1955

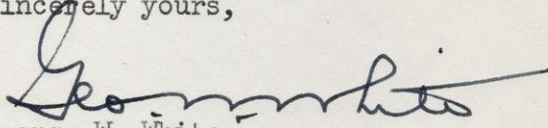
Professor F. T. Thwaites  
41 North Roby Road  
Madison 5, Wisconsin

Dear Professor Thwaites:

Thank you very much indeed for arranging to have sent to me a copy of volume 23 of the Transactions of the Wisconsin Academy. I shall have your monograph bound separately to add to my collection of volumes on history of geology. I have no doubt that the other papers in the volume will be welcomed by my biological and other colleagues on the campus.

I appreciate your comment on the history of your writing of this paper and of its connection with Keyes, Chamberlin, and Martin.

Sincerely yours,



George W. White  
Head of the Department

GWW/sr



24 June, 55

Prof. G. W. White,  
Dept. of Geology,  
University of Illinois,  
Urbana, Illinois

Dear Prof. Whit: As soon as yours of the 17th came I had Mr. Hanson get in Hanson get in touch with the Library and they furnished a copy of vol. 23 of the Academy Transactions free of charge. I had it mailed to you from the survey office. I am glad you like the paper. I would not change it materially if written today. It was inspired by the late Lawrence Martin who did not like T. C. Chamberlin. Instead of disagreeing with him it brought down the wrath of the late Charles Keyes who devoted two papers in his Pan-American Geologist to tearing it to bits. Reference to them is contained in my "Outline of Glacial Geology". They did not disclose anything of importance so far as I know. They did mention some papers which which discussed buried soils etc without calling them interglacial. I had omitted these pioneer reports.

Sincerely yours,



UNIVERSITY OF ILLINOIS

DEPARTMENT OF GEOLOGY  
URBANA, ILLINOIS

June 17, 1955

*Sent - 6-23-55*

Professor F. T. Thwaites  
Department of Geology  
University of Wisconsin  
Madison, Wisconsin

Dear Professor Thwaites:

I have had occasion to use your long paper on history  
the theory of multiple glaciation in North America which appeared  
pages 41-164, volume 23, 1928 Transactions Wisconsin Academy  
of Sciences, Arts, and Letters.

I should like very much to obtain a copy so I can have  
it bound in book form. Is it just possible you might be able  
to tell me how I could secure a copy, either of any reprint you  
may have or of the whole volume of the Transactions so I could  
have this particular paper bound up separately?

With appreciation for any information you can give me  
about various possibilities, I am

Sincerely yours,

*George W. White*  
(S.A.)

George W. White  
Head of the Department

GWW/sr



Wisconsin Academy of Sciences, Arts, and Letters

Madison, <sup>5</sup>Wisconsin

1721 Hickory drive

May 12, 1956

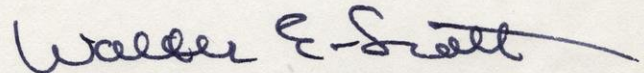
Prof. F. T. Thwaites  
41 North Roby Road  
Madison 5, Wisconsin

Dear Professor Thwaites:

Thank you for your note of May 30 informing me of your approval on the use in the Academy Review of your paper prepared for the Madison Geological Society, "Some Problems of the Forest Bed, Northeastern Wisconsin." I think this will be most interesting to our members and one or more of the photographs can be used to help illustrate it. Should I need any additional information, or materials, I'll contact you, but at present this seems quite adequate.

Thank you much for your cooperation in this regard.

Sincerely yours,



Walter E. Scott, Editor  
Wisconsin Academy Review

WES:S



30 May, 56

Mr. Walter E. Scott,  
1721 Hickory Drive,  
Madison 5, Wisconsin

Dear Mr. Scott:

Of course I will be glad to have you use my short  
short paper prepared for the Madison Geological Society.

Enclosed are three photos to take your pick from.

No. 1 shows a remnant of upper sand with holes which  
contained logs before the students got there. The dark  
horiz below is the real Forest Red.

No. 2 shows a place where the lower clay has been  
intruded through all deposits up to the red till on top.

No. 3 shows at right the same area as No. 1 with strata  
of gravel disturbed by ice shove at left and cut off level show  
above by the red till. This is graphic proof that the red  
till is an ice deposit, not a lake clay as held by T. C. Chamberlin long ago.

Sincerely yours,



Wisconsin Academy of Sciences, Arts, and Letters

Madison<sup>5</sup>, Wisconsin

1721 Hickory drive

May 21, 1956

Prof. Frederik T. Thwaites  
211 Science Hall  
Univ. of Wisconsin  
Madison 6, Wisconsin


Dear Mr. Thwaites:

As a member of the Madison Geological Society, I recently received a copy of the mimeographed statement you handed out to members in connection with your recent talk on the subject of "Some Problems of the Forest Bed, Northeastern Wisconsin." I found this statement to be very interesting and it occurred to me that it is in good enough shape to be used practically as written as a subject article in the Wisconsin Academy Review. If this thought would meet with your approval, I would appreciate your permission to make such use of this material and any changes on the attached copy that you may wish to make.

I could also use one or two photographs or sketches of the forest bed outcropping along the lakeshore bank or a picture of one of your geological groups studying the outcropping. I would try to use this in our forthcoming summer issue which has a deadline of June 15, if that would be suitable with you. If for any reason I found my materials to be too numerous, I would use this in the fall issue.

Thank you much for your consideration in this regard.

Sincerely yours,



Walter E. Scott, Editor  
Wisconsin Academy Review

WES:S  
Enc.



WISCONSIN ACADEMY OF SCIENCES, ARTS AND LETTERS

Wisconsin Academy Review

1721 Hickory drive  
Madison 5, Wisconsin

July 1957

Dear Member:

A complete alphabetical directory of the membership of the Wisconsin Academy of Sciences, Arts and Letters was carried in the Spring 1954 issue of the Wisconsin Academy Review. It is now planned to publish another list of this type in the Fall 1957 issue, and your cooperation with this project is requested.

The Directory is more complete than the annual list of members by location. For this reason, your assistance in filling out and returning the attached questionnaire is essential to a complete listing for you. If you do not return this form by the deadline date indicated on it, only your name, address, and year of affiliation with the Wisconsin Academy will be listed. If you prefer such brief listing but still wish to answer other parts of the questionnaire, there is opportunity for you to so indicate. No attempt will be made to construct a detailed listing for anyone who does not furnish details.

For those who answer the questionnaire fully, details will be summarized, with the use of a Key, to produce this type of Directory listing:

SMITH, JOHN J. (A-1954), 1716 Lapham St., Milwaukee 3. BS, Forestry, Syracuse; Prof. Biology, U.W.-Milwaukee, Forest Ecology and Taxonomy (P)-Wood identification and collection of forest history materials (H).

In order to facilitate collection and preparation of this Directory, members listed last time are given an opportunity to review their previous listing for minor changes. However, major changes preferably should be listed in the questionnaire spaces provided. In all cases, please use typewriter or print legibly to assure correct interpretation.

Your replies to the few questions about the Academy Review will assist the editors to prepare a better publication. Other information about yourself and your plans will be useful in special Academy News summaries or for future reference. This is a big job for your editors but if everyone does his part--to carefully prepare the questionnaire and return it no later than September 1 (but as soon as possible)--the project will be successfully completed in time.

Because the 1954 Directory on 354 members required 19 pages, it is expected this new Directory with over twice this membership will require most of the space available in the Fall 1957 Academy Review. It is hoped that members will find this listing useful to stimulate cooperation between each other and for future reference. Your comments on the Academy Review and especially suggestions for its improvement will be appreciated.

Sincerely yours,

*W.E. Scott*

Walter E. Scott, Editor  
Wisconsin Academy Review

WES:S  
Enc.





*holiday cheer*





1321 S Carson  
Tulsa, Okla  
M May gay and  
cheery greetings  
From friends both  
far and near,  
In their glad ways,  
bring Happiness  
NOW CHRISTMAS TIME  
IS HERE!

I have intended to  
write you for some time  
now, thanking you for



your exercise on aerial mapping. If you have not a copy of "Topographic Drafting" - War Department Technical Manual TM5-230, you will certainly want to send for one. It is a splendid up-to-date reference.

I met Dr. Weidmann and a young geological professor (also from Wisconsin) at Norman, Okla. a few days ago. Dr. Weidmann, although now retired, is still good-natured and healthy. He remembers you as a student.

Please give my regards to Con Emmons and Dr. Winchell.

With best wishes for the new year,

Ed Wenberg.