May 26th 1915

Dr. Cushman:

Please let me know what the species of this L pneumolites is, if you know, and its geologic position where else has it been found.

Yours truly,

[Signature]

From well at Lake Trudy, Miss.

depth 2185 - 2205 ft below the surface.

[or F 319, as on cork]
January 3, 1922.

My dear Vaughan,

I found your letter here this morning and return to you, Mrs. Vaughan and Caroline my best wishes for the New Year. On returning to Boston I saw in my resignation from the Survey to the Chief Biologist asking that it take effect Dec. 31, 1921. I should have done it before.

I wish you would have Miss Bower read me thanks for me to make out the work for December, though it is not large and also to send to through it is not large and also me to send to that Miss Cushman for what work she has done. Than written her to discontinue work as of December 31.

On looking over my mail Saturday I found a note from Miss Summer saying that she would be out of work tonight and so mailed direct to her the next lot of specimens to be drawn and the the next lot of specimens to be drawn and the outsities. Will send the remainder soon also the repairs on the odds and ends of the Aquila work now be finished. We can then take up the matter of the division of the mounted specimens and their return.

Very truly yours,
Dear Vaughan,

Thank you very courteously considering the whole matter of your letter and the possibility of reinstatement. I have come to the conclusion of considering the matter from all sides that it would be more wise to apply for reinstatement. It might make it awkward for you in the first place. Secondly it would seem queer I think after resigning to apply for reinstatement now when others have been more than you. My real reason for it is that I have been doing it would be perhaps better to make the change now when someone is available. There is room for several names in the group.

I should like somehow to complete my

Event and Curious. Mr. S. - the smaller
Eocene and Cretaceous. Must in the Smaller
fossil forms before I quite leave. If fossil
work if there is some other way to bring
it about. I feel that I must to science
as well as myself to use the knowledge that
acquired and the ideas thus has developed
before stopping work. There is so much always in the back frame mind when they finish their work that it always seems a pity it could not have been made available for others use. So I feel in a way that I should complete that work if it is possible. You may have suggestions as to its possibilities. Could

Another thing I find from getting very tired. Last summer I worked

This feeling that there has come a certain feeling of relaxation since the early resignation was read that makes me feel like trying that some real effort.
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY
WASHINGTON
January 4, 1922.

Dr. J. A. Cushman,
Boston Society of Natural History,
Boston, Massachusetts.

Dear Doctor Cushman:

Upon my return to the office yesterday morning your letter of resignation, dated December 31, and addressed to Mr. White, was sent to me. Therefore, the longhand letter I wrote you on January 1 needs no supplement. I am sorry that you feel impelled to resign but you understand conditions from the conversations you had in Amherst with Mr. White and me. I have recommended that your resignation be accepted.

You of course understand that all governmentally owned specimens at present in your possession need to be returned to the U. S. National Museum, and you should send to me at the U. S. Geological Survey all manuscripts, notes, etc., that you may have that are based on governmentally owned material.

With my best wishes, I am

Very truly yours,

T. Wayland Vaughan,
Chief, Section of Coastal Plain Investigations.
Dr. J. A. Cushman,
Brook Road,
Sharon, Mass.

Dear Doctor Cushman:

I received your letter last night and have read it with much interest.

With regard to your possible reinstatement:

The next morning after I wrote you, I believe Sunday night, January 15, I discussed with Mr. Paige and the Chief Geologist the possibility of reinstating you. I told both of them that I was willing to make the suggestion provided it were agreeable to you and if they would approve it. Both of them told me they would approve.

I should like to have you finish the work we had planned on the Eocene and Cretaceous foraminifera of the Coastal Plain and I note that you say you would like to do this. I think the best way to accomplish this result is for me to request your reinstatement and then let you continue the work under the arrangements that prevailed for several years past.

The desired work might be done under contract, but I am opposed to contract work because of several experiences I have had. You will easily appreciate that it is very difficult to make close estimates regarding the work, new material often turns up and the contract method is likely to be unsatisfactory to one or the other of the contracting parties.

One of the things in connection with the work that you might do is the preparation of complete sets of reserve material. Of course, work of this, except the critical identifications, can be done by your niece. For in all the collections that are worked up it is intended that the data be made available for use by others. In order to make the data available two things are necessary -- one is a published report and the other is adequate suites of properly prepared, identified and labeled specimens. It may not always be practicable to make an estimate for such work under the contract system.

From what goes before you will see that I favor your reinstatement. You need have no qualms regarding this matter. If the reinstatement is made I think it better for you to come back to Washington as soon as you conveniently can, and we can then have such discussion of your work as is desirable.
As some rearrangements are now under contemplation in the Survey I should be glad if you would telegraph your reply to me at my personal expense. Address the telegram to my house so as to avoid any confusion in the Survey office.

Very truly yours,

T. Wayland Vaughan,
Chief, Section of Coastal Plain Investigations.
March 3, 1922.

Dr. J. A. Cushman,
Boston Society of Natural History,
Boston, Massachusetts.

Dear Doctor Cushman:

I have been requested to look after the preparation of the chapter on the significance of organisms in the interpretation of the physical conditions under which deposition of sediments takes place for the forthcoming treatise on sedimentation being prepared by Professor Twenhoefel. Will you be so kind as to undertake the preparation of a statement regarding the significance of foraminifera in deducing the physical conditions under which sediments are deposited, for incorporation in the chapter assigned to me? I should think your manuscript should be about 2000 words in length.

As I hope to finish this chapter during the summer I should be glad to get your manuscript by or before the first of July.

Very truly yours,

T. Wayland Vaughan,
Chairman, Committee on Sedimentation.
Address: U.S. Geological Survey.

Thank you for the copy of your Tortuga foraminifera.
254 Berkeley Street,  
Boston, Massachusetts,  
June 27, 1922.

Dr. T. Wayland Vaughan,  
U.S. Geological Survey,  
Washington, D. C.

My dear Doctor Vaughan:

At Dr. Cushman's request I am including a brief paper by him entitled "The significance of Foraminifera in deducing the physical conditions under which sediments are deposited," in answer to your letter of March 3, in connection with the preparation of the chapter on the significance of organisms in the interpretation of the physical conditions under which deposition of sediments takes place for the forthcoming treatise on sedimentation being prepared by Professor Twenhofel.

Very truly yours,

Enclosures.
Dear Doctor Cushman:

I have just received your letter of June 19. I am somewhat embarrassed with reference to the larger foraminifera from Mexico. In my correspondence with Doctor Semmes and Doctor Cooke I have recommended that you be given permission to publish on the smaller foraminifera, but not on the larger forms. You examined only a fraction of the material I personally collected in Mexico. I never received from you complete reports on material sent you from several localities and no report at all from material from at least one important locality. You declined to examine and report on the collection Messrs. Ehmeyer and Rau made for me in the Mecapala Hills as a part of my studies there, unless you were given additional compensation. Furthermore, I received large collections from Messrs. Nesbit, Adkins, and Semmes in addition to all the other material. Therefore, it was necessary for me to rework the whole of the collections of the larger foraminifera. I also have the important material collected by Doctor Stephenson in Mexico for the Gulf Company.

I have had thin sections cut so as to work out the embryonic and meridional chambers and the vertical sections of every species of which there was sufficient material, and I have had photomicrographs made of the entire series, with the result that the names you applied to a number of the species must be changed. For instance your Lepidocyclina scrobiculata is typical L. macleodi; your L. ocalana from near Santoyo is not L. ocalana but is a very distinctive new species; your L. vaughani from near Zacatewixle is not only not L. vaughani but it does not belong in the same subgenus. Your L. semmesi from near Los Naranjos is very close to your L. pavula from Antigua, but I have not yet reached a positive opinion on this. The species you described as L. proteiformis is valid, but you didn't work out the structure and I have worked out the whole structure--embryonic, meridional, and lateral chambers and vertical section, and have had photomicrographs made to illustrate all these features.

The following species described by you in manuscript are valid:

Lepidocyclina proteiformis
Discocyclina perpusilla
Operculina advena
Operculina semmesi

With reference to Operculina semmesi, the figure you designated to illustrate it represented specimens you had identified as O. willicoxi Heilprin from Mecapala Hills. I selected proper specimens for the illustrations and had thin sections cut, and had them photographed, as well as specimens to illustrate the external fea-
tures. This species was common in material from Antigua submitted to you, but you did not pick it out and describe it.

In my proposed paper on the larger foraminifera from Mexico, I can quote your brief descriptions of the four species above listed and attribute the names to you, and then describe the species in detail. Since I have done so much work on these and the related species, I wonder if you would consent to waive your right to the authorship of the four species above listed and leave me free with the larger foraminifera. I have now worked out the embryonic chambers and structure of every species of the Lepidocycline foraminifera known from America, of which there was sufficient and adequate material, and I have made studies of some species of other genera. I have had many hundreds of thin sections cut and photomicrographs made of them. A few photomicrographs were exhibited at the G. S. A. meeting last Christmas. I am just finishing a report on a large collection of larger foraminifera from Jamaica submitted by Dr. G. A. Matley, former Government Geologist of Jamaica.

If you care to send me specimens of larger foraminifera from Mexico, I shall be glad to include accounts of them with those of other material.

Since I returned from Australia in October I have been so busy that I have not distributed reprints of my recent articles, except to a few people in Australia and New Zealand. Under separate cover I am sending you my later papers.

I have written to Doctor Semmes asking permission to send you the drawings of the smaller foraminifera from Mexico, but have not yet heard from him.

With best regards to yourself and family,

Sincerely yours,

T. Wayland Vaughan.

Copy of parts of a letter from Dr. D. R. Semmes of May 22, 1924 enclosed.
July 3, 1924.

Dear Doctor Vaughan:

I have just received your letter of June 25th. I had no idea you had gone into the larger foraminifera to such an extent. I certainly am very glad of it for I believe the larger and smaller forams, while there should be no distinction between the two in any real sense, are, nevertheless, two distinct problems. With all the work you have done, I shall be very glad indeed to waive any rights I may have to the authorship of the species described as new in my report, and leave you entirely free on these. I shall be much interested to see the results of your work when it is published.

If you are going to continue active work on the larger forms, I will modify any plans I have in mind for publication to cooperate with whatever plans you may have. I have, however, certain species which are new, which have been sent me by different people, and have given them manuscript names, in some cases the names of the persons sending material as specific names. It will be rather embarrassing for me in such instances to tell them I will not publish these, or for other names to be used for them. I doubt, however, if any of these interfere with your present collections.

I realized after being in Washington that the collections which I had for examination of the larger species was very inadequate compared to the amount actually collected, and I am rather pleased to know that at least some of the species, which seemed to me to be new, have turned out to be so in the light of further study. In one or two cases these names have probably been used to a limited extent by some of the paleontologists, who have had access, through the kindness of the Aguilà Company, to my report, but this is not to the same extent as that to which the names of the smaller forams, which I described as new in that report, are now in current use among those who are working on the Mexican forams. As your types will undoubtedly go to the U.S. National Museum, as will mine also, I think it makes little difference whose name actually is finally placed after them. For this reason, as I have already said, I hereby assign to you all my rights in the four names that you mention.

Further study of the smaller forams in the light of other collections will probably change certain of the names used in that report, and I will see that you are kept in touch with any changes that may be made so that they may be correctly inserted in your final report if it is to be published. I shall, of course, make no comments on anything in the way of stratigraphy confining myself simply to a description of the species. Now that I have such a complete laboratory and facilities for work here, and can give all my time to the forams, I believe it would be a very good arrangement, if you are
going to continue work on the larger forams actively, for me to very largely confine myself to work on the smaller ones, thus making a cooperative scheme of work, which would be of advantage to us both.

I realize that in the next two or three years at least there is going to be published a considerable amount on the forams, which will be done by inexperienced persons with practically no library facilities, so I think whatever we both do will be done in much better shape, and have a better influence on the study of the forams than this prospective work that I have mentioned. Some of the papers of Martinotti show the excellent work that can be done with sections, even with the smaller forms, and when they are studied from this point of view the number of species is undoubtedly going to be tremendously increased. I am more enthusiastic than ever on the group, and am coming to the point of view that I should spend all my time on purely research work on them.

Assuring you of my cooperation at all times, and my very best regards to yourself and family.

Sincerely yours,

Jos. A. Cushman.