

DEPARTMENT OF THE INTERIOR  
UNITED STATES GEOLOGICAL SURVEY

WASHINGTON, D. C., May 20, 1889.

Sir J.W.Dawson,  
McGill College,  
Montreal, Canada.

Dear Dr.Dawson:

Several years ago while engaged in a geological examination of the Eureka Mountains in Nevada, I was much interested in a shale and sandy horizon which occurs at the top of the Devonian or base of the Carboniferous. At the time I was accompanied by Mr.C.D.Walcott who was engaged in collecting the fossils of the region while I was working out the structural relations of the beds. What interested me very much was the occurrence of certain vegetable remains in a series of beds which I have called the White Pine shales. These remains were fragmentary and at the time I supposed them to be too imperfect for specific determination. I learned the other day that these plant remains had been sent by Prof.Ward to Prof.Lesquereux and he had made the specific determinations and referred them to Cretaceous species. This is absolutely wrong. I have no doubt but the beds from which



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Dear Dr. Dawson:

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*Hopue*  
*May 1889*



they were taken belong, as I have said before, to the top of the Devonian or base of the Carboniferous. Immediately overlying the plants are fossils allied to Devonian forms, but the beds soon pass into purer limestones carrying Carboniferous fauna. Under these circumstances Prof. Ward has agreed to send the specimens to you for specific determination and I presume you will see them before many days. My expectation is that you will be able to identify them with Paleozoic species found in your own field of labor.

I send you a copy of my work on the geology of the Eureka District taken from the Third Annual Report of the Director. The work is accompanied by a map of the District and sections showing the position of the White Pine shales. All there is in relation to the White Pine shales, in text, will be found on page 266.

Very respectfully yours,

*Arnold Hague*  
Geologist.



Hager

W.S. Barry

May 1894

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*W.S. Barry*  
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