

Wichita, Kansas.
July 3, 1928.

Mr. Max Littlefield,
Box 2044,
Tulsa, Okla.

Dear Mr. Littlefield:

I received your letter of July 2nd together with the analyses of the sand samples from the Gorham field. I note with much interest your conclusions as to the source and origin of these sands.

I am sending to you my subsurface structure map on top of the Pre-Cambrian which I wish you would return to me after you have had a print made of same. This map of course is very rough and generalized but it serves to show the areas in west-central Kansas where Pennsylvanian formations are in contact with Pre-Cambrian rocks as shown by the subareal geology. The data of course is very meager in places but it is at least a beginning. In connection with this map I wish to point out the possibility of Cambrian sandstones surrounding granite cores which are known to exist. These Cambrian sandstones may have possibly been the source of some of the sands in the basal conglomerate. At any rate my present thought is that the high area shown in southern and western Russell County and northern Barton County was once a pre-Pennsylvanian barrier. I believe this barrier was high enough to stop the advance of the Pennsylvanian sea for a short period of time. I note that you regard the sand samples in the Gorham as being "beach stuff" and your conclusions coincide with my own.

In line with your thought I suggest that the samples from Brennan & Wixon and Keys Petroleum, Unrein #1, Sec.14; T.13S; R.16W, be examined from the depth of 3735 to 3985'. This entire thickness, with the exception of the bottom 5 feet, is basal conglomerate and is the thickest section of this formation so far as I know in western Kansas. The bottom portion of this conglomerate contained considerable coarse quartz grains, pyrite and green shale. No doubt it will be of considerable interest to you. This well is about 15 miles from the nearest granite core according to our present data where Pennsylvanian rocks are in contact with granite. Another thick section of Pennsylvanian basal conglomerate was found in Davis-Kruger, Prater #1, Sec.30; T.9S; R.15W. I would suggest that the samples from 3590 to 3703' be examined. I believe that most of this material is conglomerate and it contains considerable sand.

In connection with the examination of the above two wells I would suggest that you examine the sand which I believe is of Cambrian age from the Shaffer Oil & Gas Co., Boggs #1, Sec.19: T.33S; R.12W, from 5855 to 6070'. I am not at all informed as to whether or not the Cambrian sandstones are distinctive but have been wondering if such grains might not be found in the Pennsylvanian basal conglomerate. You will recall that I have mentioned the possibility of Cambrian sandstones surrounding the granite cores in Russell County. This line of thought suggested the possibility of distinctive shape or size and perhaps heavy minerals in the Cambrian sandstones. I am sorry that I do not know of any well more closely located to the center of your present studies which shows Cambrian sandstones to be present. Nevertheless, the cuttings from the Boggs well may be of some interest to you.

A little later I intend to go into this matter further and will make additional suggestions of wells to be studied to you. In closing I wish to thank you for the interest you have shown in this subject and beg to remain

Very truly yours,

Roy H. Hall

RH.AC.

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