

1965, March 29

Mr. Glenn Orr,  
c/o R. C. Orr,  
Route 2,  
Tishomingo, Oklahoma.

Dear Glen:

I have now had the piece of meteorite cut, and the cut surfaces polished and etched. This work was done by a professional who has the proper equipment and could do a neat job. After it was cut, both the same faces were highly polished.

Then it is customary to etch them with a very weak acid, generally 6% nitric in alcohol. This affects the various structures in the metal differently and brings out the internal structure.

In this case it turned the metal rather dark (it is bright silvery looking when first polished), which just seems to be the nature of the material here. The man who did the work for me even re-polished and etched again which sometimes makes for a better result.

Meteorites, when so treated, can be in general either of three kinds: an octahedrite, a hexahedrite, or an ataxite. The first has simply crystallized in an octahedral pattern, which shows up on the etched face as three sets of criss-cross lines. The hexahedrites crystallize in a cubic fashion (a cube has 6 sides) and show a different pattern, generally two sets of lines. Some meteorites show no pattern; these are called "ataxites" from some Greek words which mean just that.

Your meteorite seems mostly to be an octahedrite, but the lines in it are extremely small and fine and really need a small hand magnifying glass to see most of them. There are also some peculiar spots and long bands shown. I would rather wait and bring both pieces up to show you, and hope to be up there the week of April 11.

Please remember that I am still most anxious ultimately to obtain these meteorites for further study and preservation, and don't let anybody fast talk you out of them! I don't want to pester you or your dad, but just want to be sure you give me priority.

Most sincerely yours,