

SMITHSONIAN INSTITUTION
UNITED STATES NATIONAL MUSEUM
WASHINGTON, D. C. 20560

February 10, 1967

Mr. Oscar E. Monnig
29 Chelsea Drive
Fort Worth, Texas 76115

Dear Oscar:

It may interest you to know that the sample we collected of the Bells meteorite, by picking up the fragments with the magnet, turn out to be something other than a meteorite. When I got home with the Bells material I accessioned it because I knew that I was not going to work on that type of a meteorite. The other day when Dr. Anders asked for a small piece to measure the cosmic gas, he found our sample had no such gas. Roy Clarke then made a section and it is essentially some dark material with magnetite scattered through it, but there is some sulfur present and no silica. Just what it is we do not know, but it's not a meteorite.

This does not mean that all the Bells is out because Brian a few weeks later, and I think you were with him, found a real meteorite. I thought you would be interested because the Bells material has been collected over a wide area and at different times, so, I wonder if there is some of this black material mislabeled for Bells.

I have been organizing the ideas on the Tishomingo iron and find that there is some shocked troilite in the large specimen. The sulfide inclusion is surrounded with a zone of mixed troilite and Ni-Fe. This is the first time I have ever found such a zone around troilite in any iron meteorite. These zones occur rather frequently in stony meteorites.

Also, this troilite is surrounded with a zone which is free from martensite structure which in some ways this resembles a swathing zone. I think it is a thermal zone because it was heated in shock, and the temperature inhibited the formation of the martensite.

When you revisit the rancher in Oklahoma to get this meteorite, I suggest that you spend some time looking for evidence of a stony meteorite around that place. Since the zone around the troilite in this iron resembles the structure one gets in stony meteorites and since this metal is so rich in nickel, I am guessing that this could be a sizable metallic mass from some unusual stony meteorite. One which contains almost no iron in the silicates.

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I appreciate the fact the silicates may have been torn off prior to the time the meteorite fell and may not be in Oklahoma. There is a chance that some of the Tishomingo pieces there would have some silicates still attached.

Now that I have my ideas written out, I want to get out to Battell and talk with those fellows.

Best wishes and hope everything is going nicely.

Sincerely yours,



E. P. Henderson
Research Associate
Division of Meteorites