

TEXAS A&M UNIVERSITY

COLLEGE OF SCIENCE

COLLEGE STATION, TEXAS 77843

Department of  
CHEMISTRY

March 5, 1973

Mr. Oscar E. Monnig  
29 Chelsea Drive  
Fort Worth, Texas 76134

Dear Mr. Monnig:

Today I received the samples of Bells and Crescent in good condition. Needless to say I am delighted. Your generosity is very much appreciated.

I have not yet had a chance to weigh the samples. This I'll do and tell you when I send preprints of the studies conducted on these meteorites. The samples are certainly adequate for our studies.

I am enclosing a few pages from my Nininger Award paper which I hope might give you some idea of what remanent magnetism is. This is a rather new subject as applied to meteorites and few people in the field have any knowledge of it.

In answer to your questions - The passage through the earth's atmosphere (and its magnetic field) does not affect the remanent magnetism except very close (~1 mm) to the fusion crust. Residence in the earth's magnetic field can cause the meteorite to acquire a magnetization, but this magnetization is quite unstable as compared to its extraterrestrial magnetization. Thus, in the laboratory we can remove the effects of exposure to the earth's field without affecting the remanent magnetism. Similarly, we can remove the effects of a magnet being brought near the sample. This can become difficult if the meteorite was exposed to a very large magnetic field. However, most hand magnets simply are not that strong.

I hope within three months to have completed studies on all of the carbonaceous meteorites. At that time I'll be happy to send you a copy of my dissertation. Again, I must thank you for your generosity.

Sincerely yours,



J. Marvin Herndon

JMH:clm