

take magnets & plastic cover

If surface is clean is anything underneath?

Any magnetite in soil?

Take tablets?

Calif Acad of Science reference

1967, Oct. 5

Mr. C. P. Butler,
738 Sequoia Ave.,
San Mateo, Calif. 94403

Dear Mr. Butler:

I have re-read your article originally published by The Meteoritical Society, and I found Axon's note in Nature and studied it. I never did see your first article in the Calif. Academy of Sciences publications.

I am still puzzled. One thing that has worried me is the fact that if stony meteorites are really so much more common than iron ones, and if this condition holds throught the solar system, then there should have been a considerable number of tiny stone fragments also in the recesses of Goose Lake. Of course these might weather away quicker than the tiny iron fragments, or would they?

I am not too familiar with basalt or basaltic soils such as I understand prevail in the region of this find. Would the surface material there contain a lot of magnetite that you would collect along with the iron fragments? If so, these would tend to conceal or confuse any tiny fragments of stony meteorites also picked up.

I believe you have made the point that the iron fragments are all very near the surface. It would be interesting to compare a surface sample with something deeper. Also, if the main mass has lain there for perhaps thousands of years, why wouldn't all the fragments be washed away long ago? Axon of course hints they came off in the necessary handling at the time of removal. Have you looked rocks in the immediate vicinity that has supposedly not been moved (how could one tell?) to see if any fragments lie thereunder? *Any oxide there?*

I have never fully understood the methods or their reliability for determining the time a meteorite has been on earth. But if such measurements are any good at all, it would seem to me they should be made on the main mass and would have a bearing on whether the tiny fragments could remain at the site that long. Henderson originally was worried how such a huge mass could have made such an apparently "soft landing", but if it fell long enough ago there could have been a lot of landscape changes that moved it—and what about transport by glaciers?

What is soil there composed of?

under

In spite of all the publications on the distribution of micro-particles in space, and I have dozens of them that I have scanned, I would not know where to turn for a reliable figure on the quantity of "little meteorites" like your fragments that a piece the size of Goose Lake would encounter in a single solar revolution. If you had such a figure and the cosmic age you could do some fancy computing on such fragmental material should be in the holes, but there would be so many doubtful numbers and even assumptions involved that I fear any conclusions would not be significant.

Are there any other cases of big irons with holes like the Goose Lake that are larger at the bottom than at the top-- i.e., have narrow necks? Henderson seemed to treat it as unique, but I wonder. Have you seen the recent publication by Harvard on the Gibeon meteorites of Southwest Africa? Some of the pictures of many of them in the Windhoek gardens have a lot of holes that look like they could resemble those of Goose Lake, but of course you would have to be there and put your finger in to see! The publication I referred to is S.A.O. Special Report by Citron.

Is there any difference in the distribution of the oxides and of the metal fragments?

Well, I can discuss all these things when I see you. I do notice Nininger has a paper in the program about Goose Lake, and it will be interesting to hear what he has to say.

We shall be at the Fairmont Hotel in San Francisco because my wife loves to stay there, and I'll commute to the meetings daily. I suppose there is some kind of a bus line. We plan to fly in there the evening of the 24th and I'll see you at the opening session next morning.

Sincerely,