

*Shale to 'Sov' in Lane Station*

*Shale de figure - may well a shale  
in N. Africa*

1964, March 16

Dr. John W. Harrington,  
P. O. Box 1208,  
Spartanburg, S. C.

Dear Sir:

I was happy to hear from you, but sorry that you have deserted Texas! I have had the usual intentions of visiting you for the past two years; but just don't seem to get around to things anymore. I believe the original quotation is from Dr. Samuel Johnson to the effect that Hell is paved with good intentions.

The formation you so kindly described in detail has been familiar to me for several years, and I am glad to have some one else excited about it because I feared I was the only one. It was first brought to my attention in 1959 by a Mr. Will T. Scott of California, a former resident of that region who was familiar with it and who once lived here and knew my brother. I have gathered such maps and photographs as are available, and once took a few Kodachromes from a plane on a flight to Midland. I have made two trips to the site, and the second time took along an independent geologist from Dallas who formerly worked for Humble, Mr. Wm. J. Ebride. He got Mr. Sam Bishop of Midland, also a Humble man and said to quite familiar with the surface geology of the region, to join us.

We have all walked over it and around it and photographed it from many angles on the ground. I think we are truthfully all up in the air about what it is. I believe McBride, unofficially and non-professionally, is inclined to think it an impact site; I rather lean against it. Bishop will not commit himself. He does report that Glenn Evans does not think it is of meteoritic origin, but this is hearsay with me as I have not talked to Glenn. There are two things that really put me in a dilemma: first, the structure seems to be unique in that region or in exposures of geological formations of this age in Texas. This would surely indicate that it is not due to a salt dome, igneous plug or any ordinary geological process as these would surely not be in evidence just singly. There is also not only the beautifully formed crater wall but also good evidence of a secondary ring as would be hoped for under the original Boon-Albritton hypothesis.

BUT--everything is remarkably regular about the rocks and structure. The tilts, dips, and arrangements are just too symmetrical and well formed. There is just no evidence of heavy crushing, jumbling or disarrangement. If this was made by a meteorite it was a remarkably gentle and well behaved one. It looks more like a hand-made arrangement created by a playful giant!

I got a pair of the Agricultural Dept. photos and these (taken on two different runs of the plane) give a marvelous stereoscopic effect and are most impressive. I don't have the maps readily available (you may guess my home is a mess of files, papers, pictures, etc.) but I think the affair is about 3/10 of a mile across. The walls are perhaps 10 to 12 feet high in places.

Early in the game I wrote Virgil Barnes at the U of T about it, but he says Carl Chelf has examined it and classifies it as a fossil sink. Barnes is clearly inclined to accept this view and speaks of solution and settling.

I found the U. S. G. S. had mapped right up <sup>to</sup> this but I don't think there is even an advance sheet out containing this formation. Going back, I must mention that there are two much less conspicuous but to my mind even more promising "astroblemes" in Texas brought to my attention by others. I read a very brief notice about one of these at a meeting of The Meteoritical Society a couple of years ago and there met Dr. Eugene Shoemaker. Subsequently he let Donald Elston meet Carl Roach from Denver here and we went to both sites and gathered rocks from the central disturbed area and also from the same strata some miles away and presumably undisturbed. Roach took these to Denver and was to test them for shock by methods of thermoluminescence, but that has been over a year ago and apparently the work got sidetracked. I can tell you more about these sites later.

= Getting back to the point, I told Elston about the Colorado City formation when he was here, and urged him to get some one from the Astro-geology Division to examine it; I showed him the photos. He and Shoemaker were going to do some additional work at Sierra Madera last fall and were to try to let me join them there and come on up to Colorado City. That had to be postponed till this spring, and I am still vainly hoping to hear from them and have these men examine the structure on the ground.

If I understand it right, the "crater" is actually in the Triassic; the road runs between it and an outlier of High Plains to the northwest (which Bishop says is somewhat different from the typical Cenozoic of the High Plains in being more indurated). You have perhaps noticed that Pennsylvanian <sup>Permian</sup> is supposed to lie just to the SE but I never walked over far enough to find it and doubt if I could identify it.

and these ~~the central~~ walls are presumably red Triassic sandstone

and these actually slope inwards with a gentle ( $10^{\circ}$ ?) dip. The central hill is higher than the walls and Bishop identifies it as probably basal Cretaceous capped with Tertiary. In the ring between the two, somewhat lower in elevation, a number of loose rocks have washed or been scattered, including many iron oxide concretions which I think are supposed to come from the Dockum beds, as well as Triassic gravels of chert, etc. and some pieces of a very hard quartzite.

The secondary ring consists mainly of a few detached hills to the S and E but can possibly be traced along other arcs. A pipe line ditch about 6 feet deep was being dug between the primary walls and the secondary hills when we were last there, and some layers of white sandstone therein exposed showed a dip of about  $15^{\circ}$  right towards the center of the crater. The secondary hills are sort of cuesta-like, with gentle faces of low slope towards the center and shorter steeper faces on the outside.

I can see why Chelf and Evans think in terms of slumping, but if salt or gypsum dissolved away and gave us this beautiful ring, I get back to my query as to why only one.

Would you say there are two synclines and the main wall is an anticline? I am of course anything but a geologist, so forgive my inept terminology from time to time.

I would be pleased to see any Kodachromes or copies you could spare me and if you want anything more from me, let me know.

Were you the one with whom I left the meteorites on display at S. M. U? Whom should I see about them over there now? I feel I should rescue them as I don't know whether anybody is paying any attention to them or regards them with the proper esteem. I look forward to hearing from you more.

Sincerely,