

PRELIMINARY REPORT ON THE NARUNA, BURNET COUNTY, TEXAS, METEORITES

By Oscar E. Monnig

Thru general publicity on the subject of meteorites, the writer on May 31, 1939 received an aerolite from W. J. Chamberlain. It was a very old and deteriorated specimen but interesting in several ways, and was obtained for the collection of the Texas Observers at Fort Worth, Texas.

Chamberlain lived $4\frac{1}{4}$ miles about southeast of the little settlement of Naruna, Burnet County, Texas. He had picked up the meteorite on a footpath about $1/8$ of a mile west of his house, where it lay practically on the surface of the ground in uncultivated land when found. It is a fair inference that it had been there since its fall, as it presumably never buried itself deeply. At any rate, if it ever had a soil covering, this had eroded away.

The country is in the Edwards Plateau region of Texas, which has a terrific multitude of outcropping limestone rocks. This territory at first looks sickly hopeless as a field for meteorite finds, but the writer has learned by experience that the residents are so thoroughly accustomed to the country rock that anything else is often noticed very quickly. The region thus has good meteorite finding possibilities which at first glance are wholly unapparent.

Presumably this specimen attracted attention by its brownish color, differing from the white (tho sometimes reddish or brown stained) limestones. After it was picked up, its shape pronounced its abnormal character, and it was taken to the house to be saved, under a tree in the yard.

The stone weighs 671.3 grams (1 lb. 7.6 oz). It is a practically complete individual of the well-oriented type in its late stages of fusion. It has a very smooth peltoid or shield-shaped convex brustseite, most of the diameters being close to 9 centimeters. Around the edges are clear tho faint signs of spill-over thickened crust.

The stone has a maximum thickness of about 5 centimeters, the rear being generally a flattish, quickly-tapering polygonal body of three faces, two of which are decidedly concave.

At the center of this back side is a small broken spot to which little significance was first attributed, until Mr. Chamberlain told me that when the rock was found, there was attached at this point a small projection or tip of rock "like the support of a yellow jacket's nest". What a pity that this neat example of a stream-lined dorsal projection had to be lost! We urged a search for the fragment and made some effort personally to find it on a later field trip which was made to get all the facts first-hand. Especial attention was paid to the region under the tree where the piece had lain, but all to no avail.

The projection was said to have been about a centimeter long, and from the broken area is judged to have had about that diameter at its connecting base. One corner of the break is square, as tho the tip had at least one right dihedral angle where it joined the main stone.

The general exterior color of the stone is a dark, chocolate brown, perhaps a little darker than the average "old stone". Surficial cracks are evident over all of the stone, the worst about a millimeter in width at places. It is inferred that these

are at least partially veinlets of material which has eroded away. While the stone in general seems hard and has not been abused, it has such an appearance of weathering, especially on the rear, and the cracks represent so many incipient breaks, that one would guess a relatively slight blow would shatter it.

Not wishing to mar the idealized form, we have ground no spot on it and can make no statements about the interior. Chondrules are evident with a hand lens so that in general the stone is doubtless a chondrite and probably a veined crystalline chondrite. Judging roughly by the attraction of an Al-Ni-Co magnet, it is of about medium richness in free metal.

The longitude and latitude of the find as taken from a Texas State Highway Planning map are $98^{\circ} 16'$ W. and $30^{\circ} 57'$ N. Its coordinate number would therefore be 0983309.

On field trips of investigation in 1939 and 1941, we canvassed some of the neighbors, urging them to watch for possible additional stones. As a result, another piece was found and sent to us April 27, 1942, by H. R. Shelby. Temporarily we are reporting it as a part of this same find, but there are macroscopic differences which would indicate they belong to separate falls, in the writer's guess. The two stones would have to be cut or ground on, and preferably some petrographic examinations made, before any final verdict would be possible on this point.

The second stone weighs 513.3 grams and is obviously fragmentary (1 lb. 2.1 oz.). It is the typical brown of old stony meteorites, definitely somewhat lighter in exterior coloration than the first stone. It was found by Shelby while he was plowing in cultivated land on the Jess Okley place, at a point 3 miles in a westerly direction from the first find.

About 60% of its surface is encrusted. The shape is in general that of a somewhat triangular wedge, one large, flat side and two smaller narrower sides of which represent the encrusted corner of an individual; the remaining, largest single surface is clearly an irregular break. Of the encrusted surfaces, the two smaller, narrower ones look like primary crust, with a section of one large (4 cm. diameter) "thumb mark" depression; the large, flat crusted surface is secondary. Surely this piece represents a minor rather than a major fragment; more material like this stone should be found in this neighborhood in the future, tho nothing additional has been reported to us up to now.

The stone reacts to an Al-Ni-Co magnet about the same as the first one--perhaps not quite as strongly. A few chondrules can be seen, perhaps not quite as many as in the first stone.