

Brezina <sup>2</sup> described the structure as follows:

Finely granular; kamacite somewhat puffy; polyhedral troilite grains or plates in the kamacite. Breadth of bands, 0.8 mm.

Meunier <sup>4</sup> gave the following description:

Has the structure and composition of the caillite type, but with less geometrical regularity in the etching figures. At certain points the tænite laminae are very close together, elsewhere they are relatively distant; the kamacite bands are quite large and plessite is remarkably scarce.

Cohen <sup>5</sup> noted that the iron took on a more or less permanent magnetism. The meteorite is distributed, Amherst having the largest mass (6 pounds).

BIBLIOGRAPHY.

1. 1860: SMITH. Description of three new meteoric irons from Nelson County, Kentucky, Marshall County, Kentucky, and Madison County, North Carolina. Amer. Journ. Sci., 2d ser., vol. 30, p. 240. (Analysis.)
2. 1862-1865: VON REICHENBACH. No. 21, p. 589; and No. 25, p. 437.
3. 1885: BREZINA. Wiener Sammlung, pp: 213, 214, and 234.
4. 1893: MEUNIER. Revision des fers météoriques, pp. 52 and 56.
5. 1895: COHEN. Meteoreisen-Studien IV. Ann. K. K. Naturhist. Hofmus. Wien, Bd. 10, pp. 82 and 86.

Marshall County, 1893. See Plymouth.



McLennan County, Texas.  
 Latitude 31° 31' N., longitude 96° 45' W.  
 Iron. Fine octahedrité (Of) of Brezina.  
 Found 1898.  
 Weight, 7,144 grams (15.75 pounds).

This meteorite was described by Merrill <sup>1</sup>, as follows:

The second meteorite to be described, which will be known as the Mart Iron, was found early in 1898, on the farm of H. T. Vaughan, near Mart, in McLennan County, Texas.

This iron weighed originally 15.75 pounds. From it a slice weighing 456 grams was cut for the collection of the National Museum, the iron having been donated by the finder to the museum of Baylor University, at Waco, Texas. For the privilege of removing this slice we are indebted to Mr. O. C. Charlton, curator of the museum. The original shape of the iron was that of an irregular oval, somewhat flattened at one side and rounded above, with two large and deep pittings on the broader surface. The original dimensions were about 8.5 × 15 × 25.5 cm. It was not seen to fall and had evidently lain in the soil some time, as the exterior was considerably oxidized and the troilite, which presumably once occupied the pits, was completely eliminated. Small dark points on the etched surface are due to troilite. Sundry cracks in the iron at various points on the etched surface are also filled with troilite which frequently oxidizes in process of etching. Mr. Tassin, by whom the etching was done, calls attention to the perfection of the Widmannstätten figures, and particularly to the relief of the tænite bands.

As shown by this etching, the iron belongs to the octahedral variety, and is of moderately coarse crystallization. Its general appearance is so similar to that of the Hamilton County (Texas) iron described by Howell as to suggest that it may be a part of the same fall. The probability is still more evident when it is considered that the two localities are not over 50 miles apart in a straight line.

The chemical evidence, as shown by a comparison of Mr. Eakins's analysis of the Hamilton iron with that of Doctor Stokes, is, however, not favorable to this view, though we believe the possible (if not probable) variation in composition in different parts of the same iron has not yet been fully worked out.

	Mart.	Hamilton Co.
Fe.....	89.68	86.54
Ni.....	9.20	12.77
Co.....	0.33	0.63
Cu.....	0.037	0.02
P.....	0.158	0.16
S.....	0.017	0.03
C.....		0.11
Chromite.....	trace	.....
Fe <sub>2</sub> O <sub>3</sub> .....	trace	.....
	99.422	100.26

The samples submitted were cut from the outer portion of the meteorite, including the oxidized crust; this was carefully removed by scraping and filing. There was a small quantity of rust in the cracks on the cut surface, but its amount was trivial.

During the solution in aqua regia scales of schreibersite were observed. A few small black grains were left which showed crystal faces under the microscope, and which were identified as chromite by the usual reaction. A minute amount of colorless granular matter was also noted, the nature of which could not be determined.

All determinations were made in a solution of the same portion of 3.8636 grams, the residue having been brought into solution and added.

The analysis gave:

	0.9659 gram.	1.9318 grams.
Fe.....	89.68	.....
Ni.....	9.20	.....
Cu.....	.....	0.037
Co.....	0.33	.....
P.....	.....	0.158
S.....	.....	0.017
Cr.....	.....	trace
	99.422	

From the above data the composition of the iron may be expressed as follows:

Nickel-iron (Fe, Ni, Cu, Co).....	98.31
Schreibersite.....	1.06
Troilite.....	0.05
Chromite.....	trace
Fe <sub>2</sub> O <sub>3</sub> .....	trace
	99.42

The mass is chiefly preserved in Baylor University, Waco, Texas.

#### BIBLIOGRAPHY.

1. 1900: MERRILL. Proc. Washington Acad. Sci., vol. 2, pp. 51-53. (With a plate showing the shape of the mass and etching figures.)
2. 1901: CHARLTON. Trans. Texas Acad. Sci., vol. 4, pp. 83-84.

Maverick County. See Fort Duncan.

#### MAZAPIL.

Zacatecas, Mexico.

Latitude 24° 31' N., longitude 101° 59' W.

Iron. Medium octahedrite (Om) of Brezina.

Fell 9 p. m. November 27, 1885; described 1887.

Weight, 3,950 grams (9 lbs.).

The first description of this meteorite seems to have been by Hidden<sup>1</sup>, as follows:

Among the large number of meteoric irons which have been described only eight are recorded as having been seen to fall. It is my privilege to be able to add a ninth fall to this short list and one which may prove to be of exceptional scientific importance. This mass of meteoric iron I received in August last as a gift from my friend, Prof. Jose A. y Bonilla, director of the Astronomical Observatory at Zacatecas, Mexico. He stated that it was seen to fall at about 9 p. m. on November 27, 1885, during the periodical star shower of the "Bielids." Such is the great interest of this meteorite as shown by its history that I have delayed announcing it until the evidence of its fall had been substantiated as thoroughly as possible.

The general freshness of surface, which shows very perfectly the flow of the melted crust; the presence of unusually large nodules of a very compact graphite; the very slight superficial oxidation, and its dissimilarity to other meteorites of the region, are all interesting features of this iron, and serve to confirm the statement of its recent fall. When received it weighed about 3,950 grams. Its present weight is 3,864 grams. Its greatest length, diagonally across the mass, is 175 mm. In its thickest part it measures about 60 mm. It could be described as a flat irregular mass covered with deep depressions and having a smooth surface.

The evidence of the fall is set forth in the following communication (translated) from Professor Bonilla:

"It is with great pleasure that I send to you the uranolite which fell near Mazapil during the night of November 27, 1885. That you may the better appreciate the great scientific interest which this uranolite possesses I will state that everything points to the belief that it belongs to a fragment of the comet of Biela-Gambert, lost since 1852. I