

THE WATHENA, DONIPHAN CO. KANSAS, METEORITE*

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This small but rather well rounded iron of 566 grams was found in September 1939 in a ditch next to a country road running northwest from Wathena, Kansas, and about one mile from that town, by Mr. Russell C. Maag. The Latitude is $39^{\circ} 49' N.$ and the Longitude is $94^{\circ} 55' W.$ It was sent to the U. S. National Museum for identification and shortly thereafter acquired and added to the Roebbling Collection.

Mr. Maag reported that an exceptional fine meteor display was witnessed in Doniphan County, Kansas, in August of 1939 and suggested that perhaps this iron fell at that time. Since the surface of the Wathena iron is totally without flight markings or anything that can be identified as belonging to the original crust, it is unlikely that this iron fell at that time. In all probability it is an old fall.

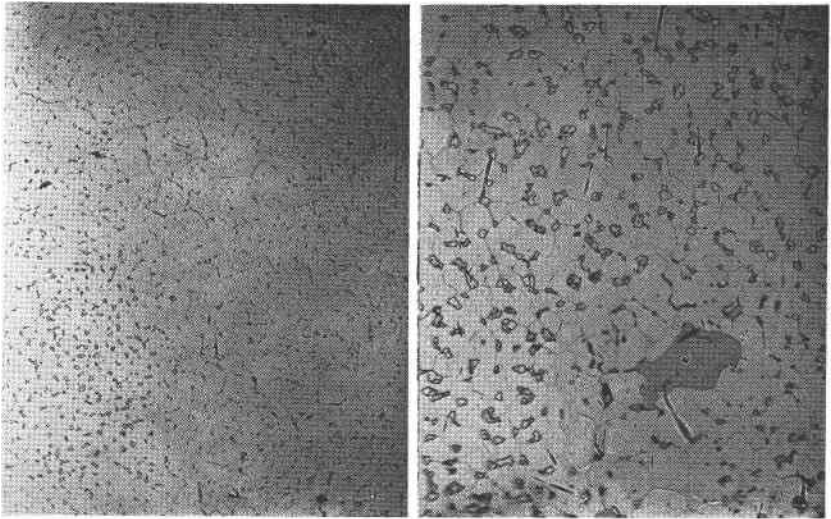


FIG. 1. Characteristic general structure. Uniform dispersal of phosphide particles; the area at the right shows kamacite grain boundaries with large phosphide bodies located along those boundaries; the left shows coarser phosphide particles. Picral 10 sec. 66 mag.

FIG. 2. A large schreibersite mass surrounded by an area of fine granulation and phosphide particles along grain boundaries. There is no indication of any diffusion of the phosphide bodies by reheating. Picral 10 sec. 170 Mag.

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A small slice was made, etched and carefully examined, to obtain for the analysis, a section that would be typical of the structure of the meteorite.

WATHENA KANSAS, METEORITE

E. P. Henderson, *analyst*

Fe	93.51	
Ni	5.56	
Co	.60	
P	.27	Mol. Ratio $\frac{\text{Fe}}{\text{Ni and Co}} = 16.07$
S	.11	
Insol.	.02	
	<hr/>	
	100.07	

The metallographic structure of this meteorite is that of the nickel poor ataxites with granular kamacite and small schreibersite bodies rather uniformly scattered through the mass, but these bodies are essentially located between the granules of kamacite. In areas where the phosphide particles are most numerous the kamacite granules are smallest. The schreibersite inclusions are all irregular in shape and without small protruding spines.

The structure, composition, and molecular ratio agree with other low nickel ataxites. A characteristic feature of this iron is the general absence of easily discernible grain boundaries in the kamacite and the uniform distribution of the schreibersite particles.