

A NEW METEORITE FROM WASHINGTON COUNTY,
COLORADO

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The meteorite here described was acquired in February, 1927, by the Harvard Mineralogical Museum through Ward's Natural Science Establishment. The rather meager information regarding its discovery was obtained by R. D. George, State Geologist of Colorado from the finder, Eugene King, and was placed at our disposition for publication.

As the meteorite was not seen to fall no exact date can be given for it; but Mr. King thinks that it probably fell in 1916. It was found in a wheat field buried about 12 inches deep. The finder thought to see evidence of heat in the soil in which the iron was imbedded sufficient to convince him that it had fallen but recently. As it is an iron meteorite and shows almost no sign of rusting, his conclusion is probably correct.

The location of the fall was given as NE $\frac{1}{4}$, S 23, T 4S, R 52W, Washington County, Colorado. This point is approximately in latitude 39°42' N., longitude 103°10' W. Mr. George writes that this locality is about six miles west and a little south of Arickaree Postoffice but that these country postoffices are migratory in character, this one having changed its location three times since 1913. The nearest town is Flagler, a station of the Union Pacific Railway which is 28 miles south and about three miles east of the point of fall. Under the circumstances it seems best to designate the meteorite as the Washington County, Colorado fall.

The meteorite consists of a single very symmetrical disk of iron, slightly ellipsoidal, with major dimensions of 15 and 20 cm. and a maximum thickness of 6 cm. It weighs 5750 grams or about 12 $\frac{1}{2}$ pounds. As shown in the photographs one surface is slightly conical with imperfectly radial flutings. This was probably the "breast" or front surface of the iron in its flight. The other surface is much smoother, and the edge of the disk so beveled, smooth and even as to suggest its having been cast in a mold. As it was impossible to slice the iron without marring its symmetry, an area in the center of the smoother face was evened off in a planing

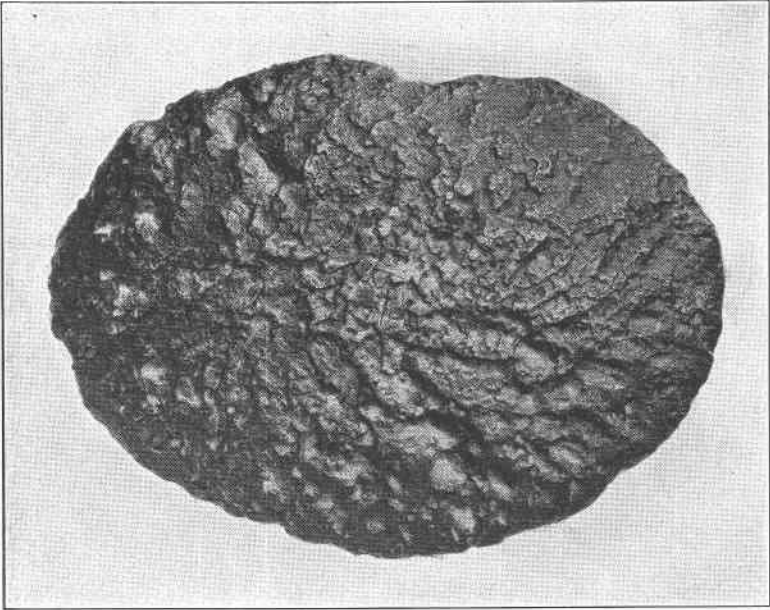


FIG. 1.

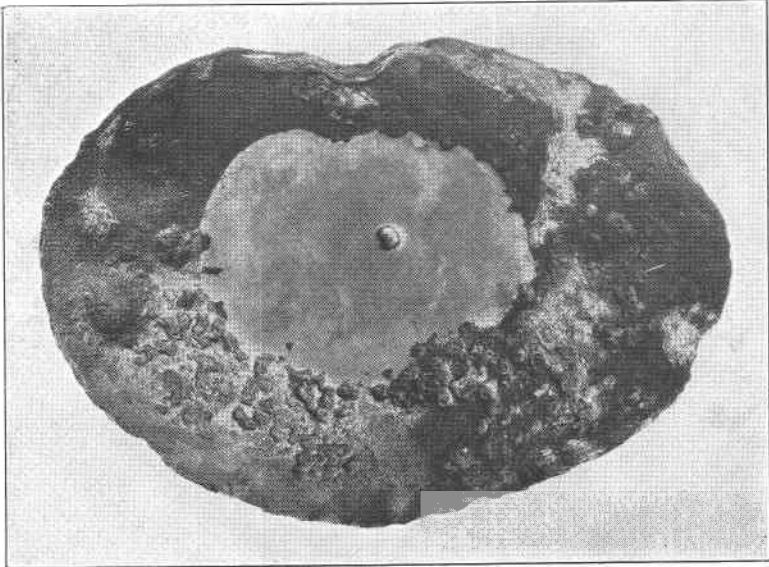


FIG. 2.
PLATE XIV

EXPLANATION OF PLATE XIV

Fig. 1. Meteorite, Washington County, Colorado. Upper side.

Fig. 2. The same, lower side. The flat area in the center is a planed surface.

Photographs by U. S. National Museum.

machine and the surface thus obtained was polished and etched. The iron was soft and worked easily under the tools. No nodules or irregularities of any sort appeared on the polished surface and etching produced a matte surface without structural features. It is therefore to be classified as an ataxite, A.

The analysis was made according to the following procedure. The sample as received consisted of approximately 117 grams of coarse dry shavings from a planing machine. No dust was present in the jar containing the sample. The form of the sample was convenient although it was necessary to assume that the sample thus prepared was homogeneous and representative of the iron as a whole. This presumes that no brittle constituents such as troilite or schreibersite were broken out and lost.

One sample of 10 grams was dissolved in dilute nitric acid, made up to 300 cc. with water and divided into three aliquot portions which were used for the determination of manganese, sulphur, and phosphorus.

A second sample of 10 grams was dissolved in aqua regia and used for the determination of iron, nickel and cobalt.

The balance of the sample, 97 grams, was dissolved in hydrochloric acid and nitro-hydrochloric acid and used for the determination of copper and platinum. The insoluble material from all three portions was weighed. It consisted of dust and a little graphite. No chromium reaction could be obtained from it. The analysis gave the following results:

Analysis of Washington County, Col. Iron. E. V. Shannon, analyst.

	PERCENTAGES
Insoluble	0.004
Iron	90.078
Nickel	9.342
Cobalt	0.548
Copper	0.010
Manganese	trace
Platinum	trace
Chromium	absent
Phosphorus	0.298
Sulphur	0.003
	100.283

The analysis proceeded smoothly, many of the determinations being checked carefully by different methods, and confidence is felt in the accuracy of the figures.

There seems to be little to add to this statement. It is evidently a moderately nickel-rich ataxite. The presence of copper and platinum is noteworthy. The low content of phosphorus and sulphur agrees with the physical evidence that troilite and schreibersite are practically absent.