

which were gathered up by other campers who retained them as souvenirs.

Black Moshannon State Park is located in Center County, Pennsylvania, and the camp at approximately 40° 55' North Latitude and 78° 5' West Longitude, about nine miles east of Philipsburg. Date of fall, July 10, 1941, between 6 and 6.30 A. M. Eastern Standard Time.

The meteorite is an irregularly shaped stone 9 × 6 × 4 cm., with seven rather flat and one curved face, and as received, weighed 523.86 grams. It is illustrated natural size, on accompanying plate from photographs made by Mr. Samuel G. Gordon. One face is the result of a fracture during its passage through the atmosphere which must have occurred late in its flight as there is but a slight secondary crust, consisting of small thin patches scarcely concealing part of the surface, but becoming continuous and thicker near two of the edges, where it is evident that molten crust from adjacent faces has been forced over by atmospheric friction.

The rest of the stone was completely coated by dull black scoriaceous crust about 0.5 mm. thick, rough to the touch. It furnishes little evidence of an oriented flight except on the slightly crusted face where the thickened crust near the margins indicates movement toward those edges, at least after the disruption occurred.

A small slice sawed from one face exposed the interior, which consists of a gray, tuffaceous complex, sufficiently coherent to permit the cut being made, but too fragile to allow the grinding of a plane surface without first saturating the porous mass with hardened balsam.

Examination with illumination from above, of a smoothed surface of the slice and of a thin section prepared from part of it, reveals numerous rather irregularly distributed grains and shreds of metal, reaching several millimeters in extent in a couple of cases but generally under one millimeter and varying down to tiny globules not exceeding one or two microns. Clouds of the latter sometimes appear in the interior of chondrules.

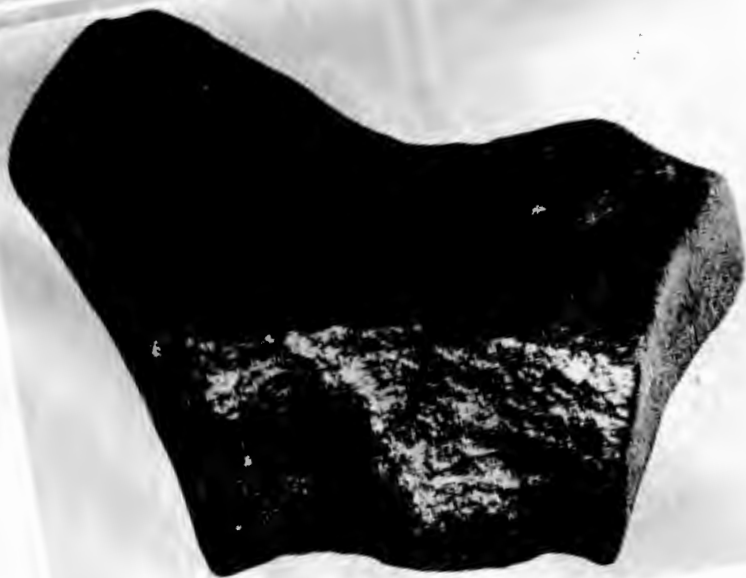
The larger areas of metal are very irregular in shape, draw out into areas, sinuous and deeply indented, with edges following the outlines of silicate grains with which they are in contact and containing inclusions of silicates. Similar areas of fine grained, dull colored, porous troilite are sometimes in contact with those of metal or intergrown with them.

Very irregularly scattered are black shining opaque grains not exceeding 2 mm. in diameter, which may be assumed to be magnetite.

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1. Moshannon Park arenolite natural size

They are occasionally included in metal or troilite, and in one case, together with grains of metal and troilite, form a broken ring around a chondrule.

The section, with transmitted ordinary and polarized light, shows a ground mass of minute angular particles of silicates in which are embedded some larger fragments of olivine and enstatite, a few scattered well formed chondrules and a larger number of portions of broken chondrules.

The chondrules, as is usually the case, are of various types—One, with well defined circular outline is so fine grained as to be merely translucent and was quite evidently originally a molten drop, which has incipiently crystallized or possibly became devitrified later. Another circular chondrule consists of coarse blades of enstatite, while some of the broken ones show the characteristic enstatite crystallizations in fascicles of parallel or radiating lines, in a few cases with indications of apparent cellular structure such as was described as organic by one observer in the case of the Knyahinya aerolite.

The largest chondrule is of polysomatic olivine, with some ~~individual olivine grains separated by a network of dark~~ colored glass. An unusual chondrule was noted on the roughly polished surface of the slice in which the grains of olivine appear to be replaced to the extent of about 20 percent by angular grains of metal, 25 to 100 microns in diameter. No barred olivine chondrules noted.

A specific gravity of 3.48 resulted from a determination on a slice weighing 10.8055 grams, about one-half encrusted. This piece, when saturated with water but with surface dry, increased in weight by 145 milligrams, indicating that the stone is porous to the extent of about 5 percent.

Classification of chondrites is so indefinite as to have little descriptive significance, but this stone, while darker in color, agrees in important respects with those of the Holbrook fall which were classified by Dr. Merrill as Cck, crystalline Kugelchen chondrite, hence this may well be similarly classed.

As the microscopical examination of this stone does not indicate any wide variation in composition from others of similar character, it has not been considered necessary, for the present at least, to sacrifice any of its limited material for chemical analysis.