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Mifflin

Basic

Name: Mifflin

information

This is an OFFICIAL meteorite name.

Abbreviation: There is no official abbreviation for this meteorite.

Observed fall: Yes Year fell: 2010 **Country:** United States Mass: 2 3.58 kg

Classification Recommended: L5 [explanation]

history:

This is 1 of 4307 approved meteorites (plus 1 unapproved name) classified as L5. [show all]

Search for other: L chondrites (type 4-7), Ordinary chondrites (type 4-7), L chondrites, and Ordinary chondrites

Comments:

Approved 25 Aug 2010

Writeup 🝱

Writeup from MB 99:

Mifflin 42°54'27"N, 90°21'56"W

Iowa County, Wisconsin, United States Fell: April 14, 2010, 10:07 pm CDT (UT-5)

Classification: Ordinary chondrite (L5)

History: A bright fireball was seen by numerous observers in parts of Wisconsin, Iowa, and Illinois the night of April 14, 2010. A camera on the roof of the Atmospheric and Oceanic Sciences Building at the University of Wisconsin-Madison captured two images of the fireball at around 10:07 PM. The track was recorded by Doppler radar. Residents in Mifflin Township, Wisconsin, heard large explosions at the same time. The first stone recovered (7.4 g) hit the metal roof of a shed and was found the following day; it was identified as a meteorite at the University of Wisconsin-Madison. Several more stones were found subsequently within a few days. Numerous stones fell as a shower mainly in the area of Mifflin Township within a total distance of 20 km. More than 70 stones and fragments were recovered in the area within a few weeks after the fall.

Physical characteristics: Total mass recovered is more than 3.5 kg. The largest stone, 332 g, is owned by the finder and private collectors. Most pieces are fully enclosed in fusion crust.

Petrography, description and classification (N. Kita, J. W. Valley, D. Nakashima, T. Ushikubo, M. J. Spicuzza, UWisc; G. MacPherson, L. Welzenbach, SI; A. M. Davis, UChi; P. R. Heck, FMNH). Most stones are partly to fully fusion crusted. Some broken surfaces show brecciated texture, with dark and light clasts. Black colored shock veins up to a few mm long were observed. Chondrules are not obvious in hand specimen, but are visible in thin section.

Geochemistry: Mineral compositions and geochemistry: Olivine (Fo_{75,1+0.2}; n=15), low-Ca pyroxene (Fs_{78,9+0.2}Wo_{1.5};

n=16). Oxygen isotope analysis (Mike Spicuzza by laser fluorination/gas-source MS): $\delta^{18}O=4.84\%$, $\delta^{17}O=3.65\%$. $\Delta^{17}O=1.13\%$.

Classification: Ordinary chondrite (L5), shock stage S1.

Specimens: Type specimen 21.09 g, SI. Other stones at: UWisc: 142 g; FMNH: 48 g, 17.8 g, 13.1 g, 6.94 g.

Data from: State/Prov/County: Iowa County, Wisconsin April 14, 2010, 10:07 pm CDT (UT-5) **MB99** Date: Latitude: 42°54'27"N Table 0 90°21'56"W Longitude: Line 0: Mass (g): >3584 Pieces: >70 Class: L5 Shock stage: S1 Weathering grade: W0 Fayalite (mol%): $24.9\pm0.2 (n=15)$ Ferrosilite (mol%): 21.1±0.2 (n=16) Wollastonite 1.5 (mol%): Classifier: Noriko Kita, John W. Valley, Michel J. Spicuzza, Daisuke Nakashima, Takayuki Ushikubo (UWisc), Glenn J. MacPherson, Linda Welzenbach (SI), Andrew M. Davis (UChi), Philipp R. Heck (FMNH) 21.09 Type spec mass (g): Type spec location: SI Main mass: The largest mass recovered was 332 g, owned by private collectors. Finder: Robert and Katherine Jinkins, other residents and private collectors Comments: Submitted by Noriko Kita (UWisc) FMNH: Field Museum of Natural History, Chicago, IL 60605, USA (institutional address) Institutions SI: Department of Mineral Sciences, NHB-119, National Museum of Natural History, Smithsonian Institution, and Washington, DC 20560, USA (institutional address) collections <u>UChi</u>: University of Chicago, Chicago, IL 60637, USA (institutional address) <u>UWisc</u>: Department of Geoscience, University of Wisconsin-Madison, 1215 W. Dayton, Madison WI 53706, USA (institutional address; updated 3 Aug 2010) Catalogs: Published in Meteoritical Bulletin, no. 99, MAPS 46, in preparation (2011) References: Find references in NASA ADS: Find references in Google Scholar: Google Photos: Credit **Photos** Photos uploaded by members of the Encyclopedia of Meteorites. (Caution, these are of unknown reliability) **AJS Cosmic Treasures** Galactic Stone & Ironworks - Meteorites, Tektites, & Trinitite <u>Jim K</u> <u>MeteoriteCollector.org - FCOM</u> Michael S. Scherman Woreczko Jan & Wadi Geography: Coordinates: **Recommended:**: (42° 54′ 27″N, 90° 21′ 56″W) Statistics: This is 1 of 14 approved meteorites from Wisconsin, United States (plus 1 unapproved name) (plus 2 impact This is 1 of 1577 approved meteorites from <u>United States</u> (plus 211 unapproved names) (plus 28 impact craters)

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Also see:	This lists the most popular meteorites among people who looked up this meteorite.
Revision history:	This lists important revisions made to data for this record.

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