

PEEKSKILL

H6



Fell October 9, 1992
41° 17' N., 73° 55' W.

At 7:48 P.M. a greenish fireball brighter than the full moon appeared over Kentucky and traveled in a near-grazing trajectory of only 3.4° for more than 700 km in a north-northeasterly direction for at least 40 seconds, finally landing in Peekskill, New York. A sonic boom was heard as it fragmented into over 70 pieces, one of which impacted the trunk of a red Malibu coupe (see photo below) on 207 Wells St., the home of Michelle Knapp. When police arrived on the scene, they filed a report for criminal mischief by a very strong male. The smell of gas from the punctured gas tank finally prompted the fire department to investigate, at which time they found the meteoritic culprit. The stone was impounded by the police and subsequently fractured to see what was inside. This famous meteorite was eventually returned to the rightful owners.

The flight path of the Peekskill meteoroid was recorded on at least fourteen amateur videos, making this the first video obtained of a recovered meteorite. It was concluded from the videos, that there should be at least two, and possibly four or more, fragments which impacted the ground, but only the one 12.4 kg specimen has been recovered to date. Through analysis of these videos, a pre-atmospheric velocity of 14.72 km/s was calculated. The orbital parameters were worked out showing that it was only 41 days past its perihelion of 0.886 AU, with an aphelion distance of 2.1 AU. Only a few other meteorite falls have corresponding photographic, videotape, or satellite references which has enabled their orbits to be calculated; these are Lost City, Pribram, Innisfree, Morávka, Neuschwanstein, and Tagish Lake. Several other meteorite falls were observed well enough to calculate good orbital estimates, including Glanerbrug, Khmelevka, Dhajala, Paragould, Kunashak, Sikhote Alin, Vilna, Archie, Norton County, Nikolskoe, and Tilden.

Through analysis of radionuclides and cosmic ray tracks, a cosmic-ray exposure age of 32 m.y. was obtained for a meteoroid that experienced a two-stage exposure history. During the first stage, the sample was located 20-25 cm deep on a meteoroid having a radius of 40-60 cm. During the second stage, which lasted less than 200 k.y., the depth was >7 cm with a radius of 25-40 cm. A study was undertaken by V. Alexeev (2004) to determine the average atmospheric ablation of 83 ordinary chondrites utilizing cosmic ray tracks. He calculated an average ablation of 78.4% (± 3) for the entire chondrite study group, while Peekskill had a very high ablation of ~97%.

The Peekskill meteorite and the famous Malibu coupe, which was purchased by a private collector, have been taken on tour to several countries including Germany, France, Japan, and Switzerland, as well as throughout the USA. The above specimen of Peekskill is a 0.72 g fragment with fusion crust showing a faint smear of red paint transferred upon impact with the Knapp's car (see below).



Photo by Walt Radomsky. Courtesy of [R. A. Langheinrich Meteorites](#)