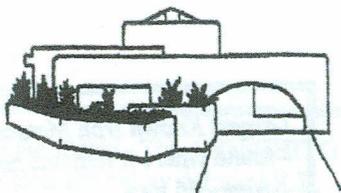
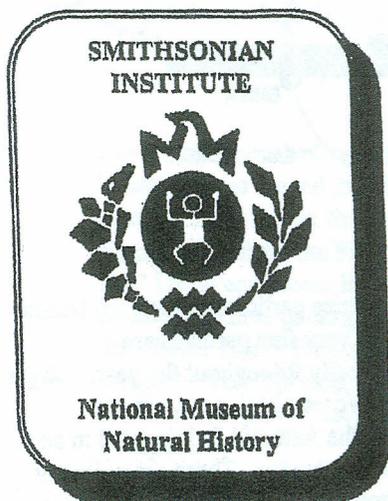


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# OLD WOMAN METEORITE

The Old Woman Meteorite is the second largest meteorite found in the United States and weighed 6,070 pounds (2,750 kg) when discovered. It is 38 inches (97 cm) long, 30 inches (76 cm) wide, and 34 inches (86 cm) high. It's mostly composed of iron, about 6% nickel and small amounts of cobalt, phosphorus, chromium, and sulphur.



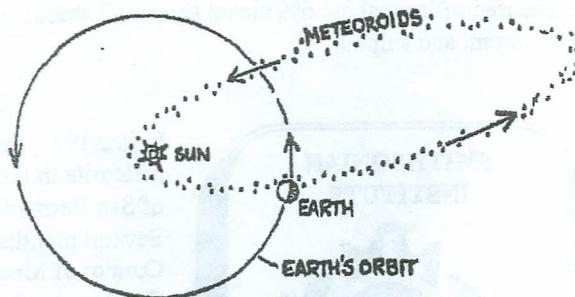
From the collection of the  
Smithsonian Institute,  
Washington, D.C.

In late 1975, three prospectors found the meteorite in the Old Woman Mountains of San Bernardino County, California. Several months later, Dr. Roy Clarke, Curator of Meteorites for the Smithsonian Institute in Washington, D.C., visited the site and verified that it was an iron meteorite.

Stony materials compose over 92% of meteorites falling to Earth. Iron and nickel makeup less than 6%, but are the ones most commonly found by people. This is because iron meteorites look different from surrounding rock and are more easily recognized. Stony meteorites blend in and resemble rocks on the ground. The remaining 2% are stony-iron composite meteorites.

*Largest Known Iron Meteorite in the World - The HOBA WEST*  
 - found where it remains near the town of Grootfontein, S.W. Africa - 66 tons.

A chunk of metal or rock tumbling through space is a meteoroid. Upon entering the Earth's atmosphere, the meteoroid becomes a meteor as it heats to incandescence due to friction caused by the pull of gravity. If the object reaches the ground before it completely vaporizes, it becomes a meteorite. Most meteors never reach the Earth's surface and appear as a streak of light as it vaporizes. The average meteorite weighs about .0005 ounces, and are not much larger than a grain of sand.



**METEOROID ORBIT**

Most meteors you see in the night sky are dust size particles of rock left behind by comets that crossed the Earth's path. These very fine particles are responsible for meteor showers we see periodically throughout the year. Larger meteoroids, like the one that became the Old Woman Meteorite, are not remnants of comets. Instead, they come from the Asteroid Belt located in an elliptical orbit around the Sun between Mars and Jupiter. These are probably fragments produced from the collision of asteroids since their composition is similar to materials found in the asteroid belt.

Gravitational influences from Jupiter and Mars can send some meteoroids in the direction of the Earth. Earth's gravity can then attract the meteoroid and pull it into our atmosphere. If the meteor is large enough to withstand the heat of friction, it will fall to the ground as a meteorite.

*Second Largest Iron Meteorite in the World - The AHNIGHTO (THE TENT)* - from Greenland - Brought out by Admiral R.E. Perry in 1897 - Now at the American Museum of Natural History in New York City - 33.1 tons.

Since the Old Woman Meteorite was located on public land managed by the U.S. Bureau of Land Management (B.L.M.), the prospectors filed a mining claim on the site. To their disappointment, they learned that meteorites are not locatable minerals as defined by the mining laws. Under the conditions of the Antiquities Act, a meteorite found on federal government land is considered an object of national scientific interest. It, therefore, became an artifact of the Smithsonian Institution's Museum of Natural History in Washington, D.C.

*Largest Iron Meteorite from the United States - The WILLAMETTE* - from Oregon - now at the Hayden Planetarium in New York City - 14.2 tons.

Removing the Old Woman Meteorite from its resting place proved difficult because of the rugged ground, the weight of the meteorite, and the desert's summer heat. It took the help of the U.S. Marine Corps to complete the job. A rigging team from the First Marine Division Support Group climbed up to the site. Using equipment lowered to them by helicopter, they managed to get a double thickness of cargo netting under the meteorite. Then, a helicopter from the Marine Heavy Helicopter Squadron 363 easily plucked the three-ton meteorite from the mountain. It was then placed on a truck and removed from the area. They used heavy padding to prevent damage to the meteorite during transport.

The meteorite was placed on display at B.L.M. buildings and museums in El Centro, Redlands, Riverside, Los Angeles, and Barstow. Public interest was very great and thousands of people came from all over the United States to see it. Two full-size Old Woman replicas were made and are used for display at museums and public gatherings.

*Second Largest Iron Meteorite from the United States - The OLD WOMAN - found in the Old Woman Mountains, Southern California - located at the California Desert Information Center, Barstow, California - 6,070 pounds.*

In March 1978, the Old Woman Meteorite went to the Smithsonian Institute in Washington, D.C. for study and display. They removed a section weighing 942 pounds (427 kg) and closely examined it to find out its chemical makeup, mineral content, and rare gas content. The internal structure appears as a variation between two well-know types of metallic meteorites that were never seen together before. These studies suggest that this meteorite may be quite rare and one of a kind.

*At Meteor Crater near Winslow, Arizona - The largest specimen found is a piece weighing about 1,000 pounds.*

According to Dr. Clarke, meteorites are the oldest objects available for scientific study and thought to be left-overs from the time of our solar system's formation. By studying the Old Woman and other meteorites, scientists hope to learn more about the origins of the solar system. They may also learn more about the environment in which this meteorite may have formed and existed for about 4 1/2 billion years.

In September 1980, the Smithsonian sent the meteorite (minus 15% of its bulk) back to the California Desert. There, it was placed on permanent display at the B.L.M.'s California Desert Information Center in Barstow. Stop by and have a look at a truly unusual rock.



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