

ART ANCIEN



SEYMCHAN METEORITE

Iron - Coarse Octahedrite
Circa 4.5 Billion y/o
Weight: 34.68 kg
Height (including base): 53 cm
Width: 29 cm

PROVENANCE

Discovered in the Magadan District, Russia, 1967 (62° 54' N,
152° 26' E).

PUBLISHED

Meteoritical Bulletin, no. 43, Moscow (1968)

Extraterrestrial, ArtAncient Ltd, 2022, p.47.

A magnificent and extremely sculptural specimen of the Seymchan meteorite, recovered in the Russian Far East.

A striking extraterrestrial sculpture, preserving the patinated and partially melted exterior of the meteorite, together with the mesmerising pattern of iron-nickel crystals of the cut face interior.



A Messenger from Space

At around 4.5 billion years old, this iron meteorite originates from the core of an asteroid, which was, like our own planet, large enough to undergo differentiation. Ripped apart from its parent body and propelled out of the asteroid belt by intense collisions during the early formation of the Solar System, it would then likely have travelled over 100 million miles before being trapped in the Earth's gravitational field and falling to the planet's surface.

The interior section of the present meteorite reveals the beautiful interlocking crystal structure of two nickel-iron alloys. Known as the Widmanstätten pattern, it is formed by the extremely slow cooling of the parent body from a molten state in the vacuum of space. On account of the way it forms, this mesmerising and reflective pattern is indicative of the meteorite's extraterrestrial origin, and cannot be found anywhere on Earth.

On the other side, is the original exterior of the meteorite which formed as it plunged through the Earth's atmosphere at cosmic velocity. During its fall, the surrounding air was heated to 1700°C, resulting in a fireball. The outer surface of the rock would have melted away, exposing a new surface also affected by the adverse temperatures. During this process, streaks of molten metal vaporised off the exterior, causing the scars and indentations now visible on the surface.

As well as being extraordinarily beautiful, pallasite meteorites such as this are also immensely valuable to scientific research. In particular, they help us to understand the formation and structure of our own planet, whose core is made of the same iron and nickel. While advancing planetary science, meteorites are also imbued with an ethereal quality, deriving from their beauty and otherworldly origins. Formed over billions of years, and perfected by the intense heat of atmospheric entry, they are entirely natural sculptures, symbolic of the incredible forces of our universe.



- 1** The recovery of the Seymchan meteorite.
- 2** Location of the find site in eastern Siberia.



'This sculptured piece of the Seymchan pallasite has an interior window featuring olivine-free metallic iron-nickel. The sample has a coarse Widmanstätten pattern indicative of slow cooling at the top of the molten core of a differentiated asteroid. The metal grains forming this pattern are bent, due to shearing during violent break-up in the atmosphere.'

Dr Alan E. Rubin, PhD Department of Earth,
Planetary and Space Sciences, UCLA