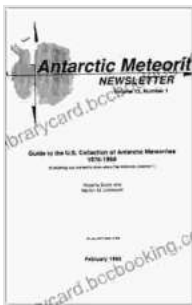


A Comprehensive Guide to Collecting Antarctic Meteorites (1976-1988)

Meteorites are extraterrestrial rocks that provide valuable insights into the formation and evolution of our solar system. Antarctica, with its vast ice sheet and remote location, offers an exceptional environment for meteorite collection. This guide provides comprehensive information on the collection of Antarctic meteorites from 1976 to 1988, covering various aspects such as field techniques, sample handling, and scientific analysis.



Antarctic Meteorite Newsletter: Guide to U.S. Collection of Antarctic Meteorites 1976-1988 - Volume 13, Number 1: February 1, 1990 by Connie Pombo

★★★★☆ 4.4 out of 5

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Print length : 138 pages
Screen Reader : Supported



Field Techniques

Field techniques for meteorite collection in Antarctica involve:

- **Visual search:** Experienced meteorite hunters use their keen eyes to spot meteorites on the ice surface.

- **Radar detection:** Sophisticated radar systems are employed to locate meteorites buried beneath the snow and ice.
- **Ice coring:** Ice cores are drilled into the ice sheet to retrieve meteorites trapped within.

Each technique has its advantages and disadvantages, and the choice of method depends on factors such as terrain, weather conditions, and resource availability.

Sample Handling and Processing

Once meteorites are collected, proper handling and processing are crucial to preserve their scientific integrity:

- **Documentation:** Detailed documentation of the collection location, time, and associated observations is essential.
- **Cleaning:** Meteorites are carefully cleaned to remove any surface contaminants.
- **Sampling:** Small samples are taken for scientific analysis, while the majority of the meteorite is preserved for future research.
- **Storage:** Meteorites are stored in controlled environments to prevent deterioration.

Scientific Analysis

Scientific analysis of Antarctic meteorites has yielded invaluable information about the early history of our solar system and the formation of planets:

- **Petrography:** Microscopic examination of meteorite thin sections reveals their mineral composition and texture.
- **Geochemistry:** Chemical analysis provides insights into the origin and evolution of meteorites.
- **Isotopic dating:** Radioactive isotopes are used to determine the age and history of meteorites.
- **Cosmology:** Meteorites provide clues about the formation and evolution of the universe.

Results and Significance

The Antarctic meteorite collection program from 1976 to 1988 yielded over 15,000 specimens, significantly enriching our understanding of meteorites and their role in the solar system:

- **Diverse meteorite types:** Antarctic meteorites represent a wide range of meteorite types, including chondrites, achondrites, and irons.
- **Scientific discoveries:** Meteorite studies have led to important scientific discoveries, such as the identification of new meteorite classes and the confirmation of the Martian origin of some meteorites.
- **Extraterrestrial materials:** Antarctic meteorites provide valuable samples for studying extraterrestrial materials and their potential impact on Earth.

The collection of Antarctic meteorites from 1976 to 1988 has been a major scientific endeavor that has significantly advanced our knowledge of meteorites and their role in the solar system. This guide provides a

comprehensive overview of the field techniques, sample handling, scientific analysis, and results of this important program. It serves as an essential resource for researchers and enthusiasts in the field of meteoritics, and continues to inspire future explorations and discoveries.

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