Antarctic scientists find 18kg meteorite

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An 18kg meteorite found by the Belgo-Japanese SAMBA meteorite team during a field trip on the Nansen Ice Field
Photo / International Polar Foundation/Vinciane Debaille

Scientists in Antarctica have discovered an 18kg meteorite embedded in the East Antarctic ice sheet, the largest found in the region since 1988.

Belgian and Japanese scientists on the frozen continent for the Search for Antarctic Meteorites, Belgian Approach (SAMBA) mission found the space rock on the Nansen Ice Field on January 28 while searching for meteorites scattered around the region.

In all, the team found a total of 425 meteorites, altogether weighing 75kg, during the 40 day expedition at an altitude of 2900m, 140km south of Belgium’s Princess Elisabeth Antarctica research base.

“This meteorite was a very unexpected find for us, not only due to its weight, but because we don’t normally find such large meteorites in Antarctica”, said Vinciane Debaille, a geologist from Universite Libre de Bruxelles, who led the Belgian part of the team during the expedition.

“This is the biggest meteorite found in East Antarctica for 25 years, so it’s a very special discovery for us, only made possible by the existence and location of Princess Elisabeth Antarctica [research base].”

Initial field analysis by the scientists suggests the 18kg meteorite is an ordinary chondrite, the most commonly found type of meteorite.

The fusion crust - the meteorite’s outer casing - was eroded, allowing the scientists to inspect the rock underneath.

The meteorite is currently undergoing a special thawing process in Japan - to ensure water doesn’t get inside the rock.

“We study meteorites in order to better understand how the solar system formed, how it evolved, how the Earth became such a unique planet in our solar system”, said Debaille.

“This season’s SAMBA mission was a success both in terms of the number and weight of the meteorites we found. Two years ago, we found less than 10kg. This year, we found so much that we had to call the travel agency - because we had 75kg of meteorites to take home.”

THE NUMBERS:
* Total known meteorites discovered: 56,555.
* Total meteorites found in Antarctica only: 38,537.
* Among Antarctic meteorites, only 30 have a mass greater than 18 kg. The 18kg meteorite has the fifth largest mass ever discovered in East Antarctica (Dronning Maud Land), and is the first of this size found in the area since 1988.
* Each year, around 1000 meteorites weighing less than 100g are found, and about 100 less than 1kg.
(Source: The Meteoritical Society)

THE TEAM FOUND:
425 meteorites
Total weight: 75kg
1 meteorite at 18kg
1 meteorite at 6kg
1 meteorite at 4.5kg
2 at 2kg
4 at 1kg
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