

Chinese study suggests the moon was active 120 million years ago

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Beijing, September 10 (QNA)– The moon may have been geologically active as far back as 120 million years ago, according to a study by researchers from the Institute of Geology and Geophysics under the Chinese Academy of Sciences on a set of glass beads returned by China’s Chang’e-5 mission.

Lunar samples obtained before the mission indicated that the moon’s volcanic activities had ceased about three billion years ago, suggesting that it had become a “dead planet.” However, basalt rock fragments returned by the Chang’e-5 mission suggest that the moon had been volcanically active for as long as two billion years.

The new study found that three volcanic glass beads, which are thought to be the result of rapid cooling of magma, were formed only about 123 million years ago.

The researchers from the Institute of Geology and Geophysics under the Chinese Academy of Sciences investigated approximately 3,000 glass beads in returned lunar soil samples, and identified three as having a volcanic origin on the basis of their textures, chemical compositions, and sulfur isotopes.

The team also identified high abundances of rare earth elements and thorium in these glass beads, indicating that such recent volcanism was related to local enrichment of heat-generating elements in the mantle sources of the magma.

It is worth noting that the Chang'e-5 probe, which returned to Earth on Dec. 17, 2020, retrieved 1,731 grams of lunar samples, consisting primarily of rocks and soil from the lunar surface.

Upon analysing these lunar samples, great achievements have been made, with researchers publishing more than 80 achievements in domestic and international scientific journals. Among these findings are the identification of the “youngest” basalt on the moon, the discovery of a new lunar mineral and a type of mineral containing water molecules.

This year, China's Chang'e-6 mission achieved a historic first by collecting 1,935.3 grams of lunar samples from the far side of the moon.

This endeavor is also of unique scientific significance and is expected to greatly enhance people's understanding of the history of the moon's evolution.