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## 18-km wide diamond layer on Mercury, says study – 5th August 2024

### Level 4

Marilyn Monroe once sang, "Diamonds are a girl's best friend". Scientists believe they have found an 18-km wide layer of these precious stones, on Mercury. Earth's closest neighbour could be a huge jewel. Researchers tested how Mercury formed from spinning clouds of dust. Over 4.5 billion years ago, the dust became graphite. Mercury's diamonds may never be mined. This is because they are 500 km below Mercury's surface.

Researchers used a machine to simulate the conditions under which Mercury formed. They mixed silicon, magnesium and aluminium inside a graphite capsule. This was exposed to pressure 70,000 times greater than Earth's. It was heated to temperatures of 2,000°C. A researcher said the diamonds on Mercury would resemble pure diamonds. Scientists believe there are a quadrillion tons of diamonds beneath the Earth.

### Level 5

Movie star Marilyn Monroe once famously sang, "Diamonds are a girl's best friend". Scientists in Belgium believe they have unearthed an 18-km wide layer of these precious stones, on Mercury. Our nearest planetary neighbour could be a celestial jewel. Researchers tested how Mercury formed, 4.5 billion years ago. Mercury evolved from a spinning cloud of dust and gas. Over millions of years, the dust was compressed into graphite. It is unlikely that Mercury's diamonds could ever be mined. This is because they are 500 km below the planet's surface.

Researchers used a special machine to simulate the conditions under which Mercury formed. The machine is used to make synthetic diamonds. Researchers made a mixture of silicon, magnesium and aluminium inside a graphite capsule. This was subjected to pressure 70,000 times greater than Earth's. It was heated to temperatures of 2,000°C. A researcher speculated about the diamonds on Mercury. He said: "They would [resemble] pure diamonds." Scientists believe there are a quadrillion tons of diamonds beneath the Earth.

### Level 6

Iconic American movie star Marilyn Monroe once famously sang, "Diamonds are a girl's best friend". Scientists from the University of Liege in Belgium believe they have unearthed a gargantuan amount of these precious stones. There could be an 18-km wide layer of the gems beneath the crust of the planet Mercury. Our nearest planetary neighbour could quite literally be a celestial jewel. Researchers tested how Mercury formed, approximately 4.5 billion years ago. The planet evolved from a gyrating cloud of cosmic dust and gas. Over millions of years, the dust was compressed into graphite, which is chemically identical to diamond. Both are solid forms of the element carbon. It is unlikely Mercury's diamonds could ever be mined as they are about 500 km below the surface.

Researchers used a machine called an anvil press to simulate the conditions under which Mercury was formed. The press is used to make synthetic diamonds. Researchers mixed elements inside a graphite capsule. These included silicon, magnesium and aluminium. The capsule was subjected to pressure 70,000 times greater than that on Earth. It was heated to temperatures of 2,000 degrees Celsius. The lead researcher speculated about the diamonds on Mercury. He said: "Diamonds are made of carbon only, so they should be similar to what we know on Earth...They would [resemble] pure diamonds." Scientists believe there are a quadrillion tons of diamonds beneath the Earth's surface. Experts say the value of these hidden gems is pretty much incalculable.