



SCIENCE & TECHNOLOGY

Researchers Study Inside of One of Stonehenge's Stones

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The first complete scientific study of Stonehenge's large stones has revealed some information about why their material resists damage due to weather.

Researchers recently described a series of examinations that gave a look inside one of Stonehenge's 52 large stones, known as sarsens.

The researchers studied a **core** sample taken from one of the sarsens, called Stone 58, during repair work in the 1950s. It was kept by its owner in the United States for many years before being returned to Britain for research in 2018.

The examination gave information about Stone 58's inside structure. The sarsens are made of stone called silcrete.

This silcrete is made of very small pieces of quartz held tightly together by quartz crystals. Quartz resists damage even when exposed to wind and weather.

David Nash of the University of Brighton led the study that appeared in the journal PLoS ONE. Nash said the sarsen's inside structure "explains the stone's resistance to weathering and why it made an ideal material for monument-building."

In a remarkable act of engineering, the sarsens were put up in Wiltshire, England, around 2500 BC. Stone 58, one of the very large sarsens at Stonehenge's center, stands about 7 meters tall, with another 2 meters underground.

The core sample is a **rod** of stone, about 2.5 cm in diameter and roughly a meter long. Its color is brighter than the pale-gray outside of the sarsens, which have been exposed to the weather for thousands of years.

The sample had been given to a man named Robert Phillips. Phillips worked for a company that was involved in Stonehenge repair work. He took it with him with permission when he moved to the United States in 1977. Phillips decided to return it to Britain for research in 2018. He died in 2020.

Nash said getting the sample from Stone 58 was very important for the research. "All the previous work on sarsens at Stonehenge involved samples either **excavated** from the site or knocked off from random stones," he said.

Random is a term that means in a way that does not follow a plan or pattern.

The researchers used CT-scanning, X-rays, microscopes and various special methods to study very small pieces of the core sample. Such testing is not permitted for stones at Stonehenge itself.

"This small sample is now probably the most analyzed piece of stone other than moon rock," Nash said. Analyze means to carefully study.

It remains unclear when the rock was formed. However, the researchers found that some sand pieces dated from as long as 1 billion to 1.6 billion years ago.

Nash led research published last year involving the same core sample. That research showed that 50 of the 52 sarsens share a common **origin** about 25 kilometers from Stonehenge. Stonehenge's builders may have either pulled or moved the huge stones on circular objects known as rollers.

Nash said there are still many open questions about Stonehenge. He added, "It's a **site** that is still rich with possibilities for doing more research."

I'm John Russell.

Will Dunham reported on this story for Reuters. John Russell adapted it for Learning English. Susan Shand was the editor.

Words in This Story

core – *n.* the central part of something

rod – *n.* a straight, thin, and long object

origin – *n.* the point or place where something begins or is created; the source or cause of something

excavate – *v.* to uncover (something) by digging away and removing the earth that covers it

site – *n.* the place where something (such as a building) is, was, or will be located
