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Mars Curiosity Rover Update: NASA Says Onboard Lab Detected Bursts of Methane on Red Planet



(Photo : NASA/JPL-Caltech/MSSS) Curiosity snaps a photo of the "Pahrump Hills" outcrop.

NASA's Curiosity Mars rover has noticed intermittent methane "belching" on the Red Planet, though the space agency was not able to identify the source.

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[According to BBC News](#),

the methane appeared in short bursts some 10 times greater than the faint background levels regularly detected.

Mission managers hypothesized the methane bursts are coming from underground.

A multi-institutional team of researchers published a study on the matter in the journal [Science](#).

"These are molecular cages of water-ice in which methane gas is trapped. From time to time, these could be destabilised, perhaps by some mechanical or thermal stress, and the methane gas would be released to find its way up through cracks or fissures in the rock to enter the atmosphere," study co-author and Curiosity team scientist Sushil Atreya told BBC News.

For their hypothesis to work, the researchers will need to figure out how such underground stores came to be on Mars.

"This first confirmation of organic carbon in a rock on Mars holds much promise," Curiosity participating scientist Roger Summons, of the Massachusetts Institute of Technology, [said in a press release](#). "Organics are important because they can tell us about the chemical pathways by which they were formed and preserved. In turn,

this is informative about Earth-Mars differences and whether or not particular environments represented by Gale Crater sedimentary rocks were more or less favorable for accumulation of organic materials. The challenge now is to find other rocks on Mount Sharp that might have different and more extensive inventories of organic compounds."

Though the detection is solid evidence, nearly everything else has been speculative and the researchers will need to do more work to tell the whole story.

Curiosity is at its ultimate science destination, the mountain that sits in the middle of the Gale Crater, Mount Sharp. The rover recently found evidence that the mountain was once surrounded by several lakes or at least one giant lake.