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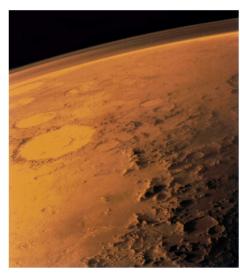
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## Curiosity Rover Finds No Martian Methane, Reducing Chances Of Finding Life On Mars

By Josh Lieberman on September 19, 2013 5:10 PM EDT



The Curiosity rover found only the smallest trace amounts of methane on Mars, diminishing hopes for finding life there anytime soon. (Photo: NASA)

The Curiosity rover has not found any significant amount of methane on Mars, NASA reported today in the journal Science. Methane was (possibly) observed in the Martian atmosphere in 2003, one of the more fascinating recent discoveries on the Red Planet. Because some 90 percent of the methane on Earth is created by living organisms, the gas's presence led to speculation about life on Mars. Curiosity found that only a trace amount of methane exists on Mars.

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"We consider this to be a quite definitive conclusion, and we're very confident with it," <a href="said">said</a> Chris Webster, manager of the Planetary Science Instrument Office at <a href="NASA">NASA</a>'s Jet Propulsion Laboratory in Pasadena, Calif. "It puts an upper limit on the background methane on Mars that is very constraining of any scenarios for its production on the planet."

"Because methane production is a possible signature of biological activity, our result is disappointing for many," Webster also <u>noted</u>.

Scientists suspect that methane will only stay in the Martian atmosphere for 300 years before dispersing, so the thinking is that any methane found on Mars has presumably been released by organisms somewhat recently.

The telescopic sighting of Mars's methane was detailed in a 2009 report titled "Strong Release of Methane on Mars in Northern Summer 2003," also published in the journal Science. That report's claim is now somewhat in question. "It just isn't there," <a href="mailto:said">said</a> Sushil K. Atreya, a professor of atmospheric and space science who was involved in today's report.

But the lead author of the 2009 report, Michael Mumma of NASA's Goddard Space Flight Center, said that his methane plume findings have not been disproven by Curiosity. He believes that methane leaves the Martian atmosphere very quickly, and that the plume he measured in 2003 is simply gone.

"[Curiosity's] findings are actually consistent with our results," said Mumma. "We reported that the methane releases are likely to be sporadic and that the methane is quickly eliminated in the atmosphere. The good news here is that the rover instrument designed to detect methane is working, and we look forward to ongoing monitoring in the future."

Curiosity's methane-measuring gizmo did actually detect the gas on Mars last fall, but it turned out to be methane from Earth's air that was still clinging to Curiosity. Other space agencies have reported finding evidence of methane on Mars, but the 2009 report was believed to be much stronger evidence than other countries' findings. Next month, India will launch a Martian orbiter equipped to measure methane.

Robert Zubrin, president of the nonprofit organization Mars Society, still holds out hope that prospect of life on Mars is more than just a great David Bowie song.

"If [Curiosity] had found methane, that would have been killer," <u>said</u> Zubrin. "Yes, it's disappointing in that we didn't get a pony for Christmas. But it doesn't mean there aren't ponies out there."

Even Curiosity himself -- herself? itself? -- entered the methane debate by tweeting, "Lack of methane doesn't mean Mars never supported life. Plenty of Earth organisms don't produce the gas.

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