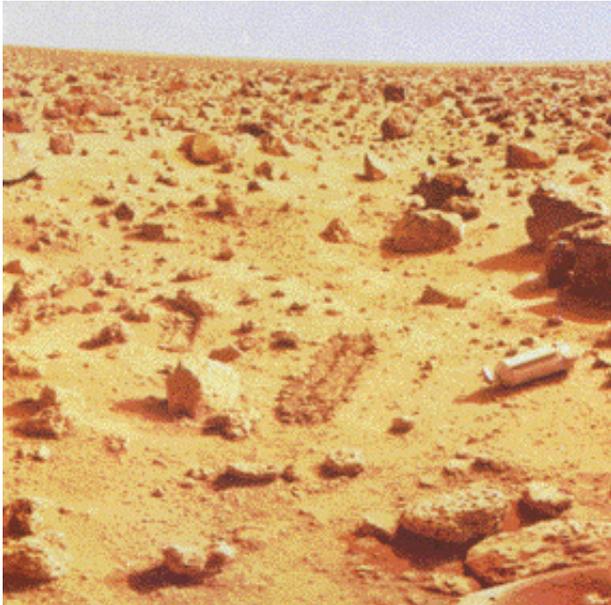


Drilling on Mars to find evidence of ancient organisms: a second genesis of life?

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Was there ever life on Mars? The answer to this question would do more than just satisfy curiosity. Researchers from NASA announce a plan to drill on Mars in search of ancient Martian organisms for comparison between life on Mars and life on Earth.

It is already theorized that life on Earth shares a common ancestor with life on Mars brought about by an exchange of material from meteorites. Evidence of life on Mars would strengthen this theory and give insight to origins of life on Earth.

Current research has focused on attaining fossils of Martian life which would only prove that life once existed on the planet. However, scientists from NASA and the SETI Institute believe that they can find out more information from Martian permafrost.

If researchers could discover dead, but intact organisms from Mars, biochemical and genetic

analysis could be performed. These methods would provide a way for direct comparison between the life once found on Mars and the life currently found on Earth.

The best place to look for preserved Martian organisms is in the permafrost found on the Southern hemisphere of Mars. Heavily cratered, this terrain dates back to early Martian history when water was abundant and existence of life more likely.

Scientists at NASA have several obstacles to overcome as they plan this study. Mars is under strict planetary protection laws set forth by the Committee on Space Research (COSPAR). Any robotic drilling missions would need to utilize sterile equipment to avoid introducing biological material into the Martian environment.

Also, contamination of samples must be avoided to ensure that biological material taken from the permafrost was of Martian origin.

Before a drilling mission to Mars is underway, more research is needed to develop automated drilling systems or systems for human operation.

In the near future though, NASA hopes to find evidence of life on Mars. Could this evidence represent a second genesis of life, separate from that on Earth? The answers may be in the permafrost.

Reference:

Smith HD and McKay CP.
Planetary and Space Science Journal. 2005. Article in Press.

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