

Water on Mars not easy to find, says Texas A&M researcher

August 11 2004

Suspected large lakebeds that once were scattered on the planet Mars have not yet been found, say the research team that operated the twin rovers Spirit and Opportunity. Their work appears in the current issue of [Science](#) magazine.

Members of the team have written several articles in the magazine, among them "The Spirit Rover's Athena Science Investigation at Gusev Crater" that deals with the search for water on the red planet, and "Pancam Multispectral Imaging Results from the Spirit Rover at Gusev Crater" that focuses on camera images taken by the rovers as they slowly traversed [Mars'](#) surface.

Texas A&M University research Mark Lemmon, a member of the Mars rover team and professor in the College of Geosciences, is one of the co-authors of the two articles.

Two rovers, Spirit and Opportunity, landed on Mars in January on different areas of the planet to perform a variety of scientific work and experiments. One of the key goals of the \$820 million NASA mission was to locate the presence of large quantities of water on Mars, which scientists believed were once there – mainly in the form of large lakes and perhaps even small seas.

Only the results of the Spirit rover are detailed in the articles, with information about Opportunity to be published in a future issue.

Although the rovers uncovered the presence of small amounts of water in rock samples, no large lakebeds have yet to be found, Lemmon says.

"We wanted to explore two specific sites on Mars that we thought were once large areas of water," Lemmon explains.

"We selected Gusev Crater for Spirit to roam through because it appeared to have once contained a lake. But so far, we have uncovered no evidence of such a lake or any other large body of water. We did find fairly recent evidence of lava flows, and it appears many of the rocks on Mars are from volcanic eruptions. We have found non-volcanic rocks with Opportunity and may yet do so with Spirit," Lemmon notes.

"If large bodies of water were on Mars, they may be buried very deep under the surface, too deep for the rovers to locate such possible water sites.

"NASA had a slogan, 'Follow the water,' meaning we should try to learn whatever we could about water on Mars," Lemmon adds. "If there were ever large amounts of water on Mars, that means there could be life there, and that's always been the big question."

Lemmon says the team did learn that Martian dust is everywhere on the planet. "The dust is so thick it coats everything, including our equipment on the rovers, so thick it clogged up solar panels we used to power some of the machinery on the rovers," he added.

Lemmon says the photographs taken by the rovers were spectacular, both in their clarity and the quality of the images.

"We got some wide panoramic shots that have never been taken before," he notes.

"The rovers also got photos of Martian landscape that were extremely useful to us. We got some shots of small hills that were very sharp."

Some 3-D photos were also taken, which proved to be very informative, Lemmon added.

Lemmon says Spirit and Opportunity are still active on Mars, but they will soon be entering a hibernation stage because of limited sunlight. The rovers rely on solar energy for much of their power, and a sol – a Martian day – now has less and less sunlight.

"We'll slow things down from now through October," he explains. "After that, we'll have more sunlight to do some other things."

Source: Texas A&M University

Citation: Water on Mars not easy to find, says Texas A&M researcher (2004, August 11)
retrieved 8 May 2024 from <https://phys.org/news/2004-08-mars-easy-texas.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.