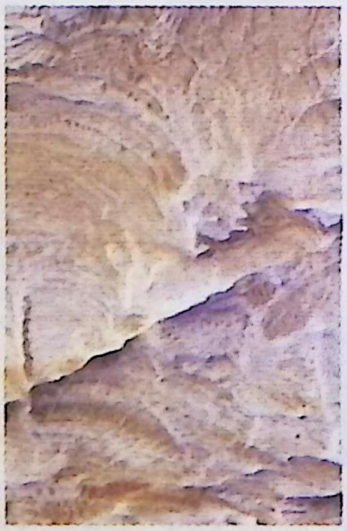
Underground Plumbing System Discovered on Mars

By Ker Than

A Mars-orbiting spacecraft has spotted a subterranean natural plumbing system that might have ferried water beneath the surface of the red planet in the distant past.

New images taken by the HiRISE camera on NASA's Mars Reconnaissance Orbiter (MRO) show hills and plateaus with alternating layers of dark and light colored rocks in Candor Chasma, one of several canyons that make up Valles Marineris, a sprawling Martian rift valley that is longer than the contiguous United States and up to seven times deeper than the Grand Canyon in places.



Ancient Mars Plumbing

Cutting like a vertical scar across these light and dark bands in Candor Chasma are a series of linear cracks surrounded by "halos" of light-colored bedrock [image].

Pipes in bedrock

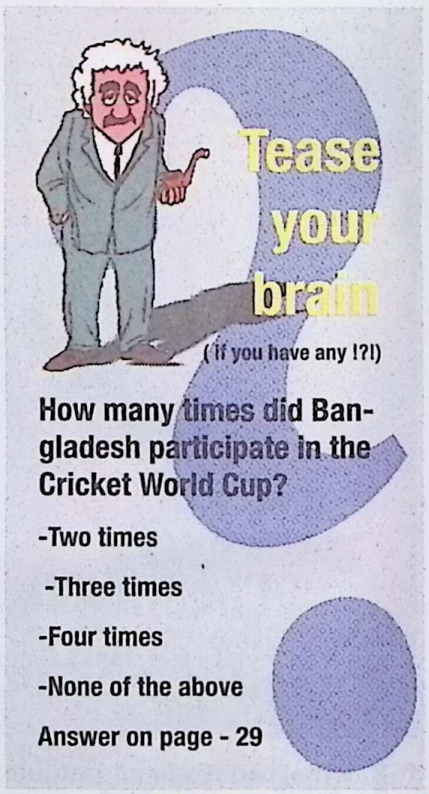
In the Feb. 16 issue of the journal *Science*, University of Arizona researchers Chris Okubo and Alfred McEwen argue that the halos are proof that some form of fluideither water, liquid carbon dioxide or a combination of the twoonce flowed through the bedrock.

The timing of the flow remains uncertain, the researchers say, and could have occurred many millions or even billions of years ago.

They suggest that liquid flowing through the fractures deposited iron-rich or clay-like minerals in the rock. The minerals would act like cement to strengthen the layers of rock and also bleach it a lighter color. Over millions of years, wind stripped away the top layers of surface rock, exposing the subsurface and its plumbing system to the light of day.

The linear cracks, called joints, are about a meter wide and range from several hundred meters to several kilometers in length. How the joints formed is still a mystery, but once formed, they would have provided a conduit for flowing liquid, the researchers speculate.

"They acted sort of like pipes through the bedrock," Okubo told *SPACE.com*.



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