

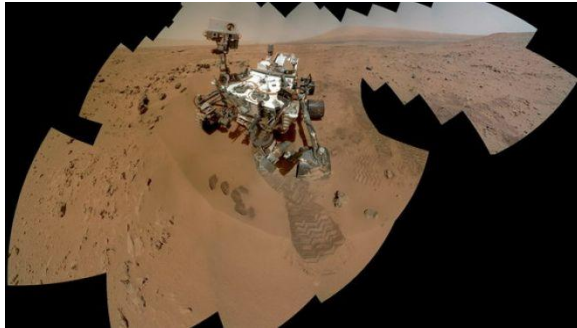
H2 oh my: NASA's Curiosity rover finds water in Mars dirt

By Mike Wall

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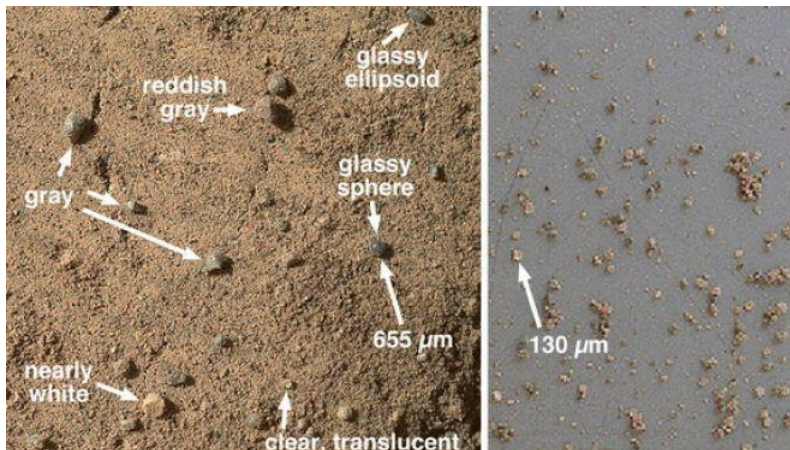
Space.com

Note from Pastor Kevin Lea follows this article.



NASA's Mars rover Curiosity is a mosaic of photos taken by the rover's Mars Hand Lends Imager taken on Sol 85, the rover's 85th Martian day, as Curiosity was sampling rocks at a stop dubbed Rocknest in Gale Crater. Image released Sept. 26, 2013. (NASA/JPL-Caltech/Malin Space Science Systems)

At left, a closeup view of the Mars rock target Rocknest taken by the Curiosity rover showing its sandy surface and shadows that were disrupted by the rover's front left wheel.

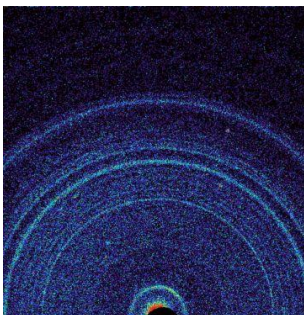


At right, a view of Mars samples from Curiosity's third dirt scoop (Science/AAAS)

This image depicts the science result from the Mars rover Curiosity's CheMin instrument, showing an X-ray diffraction of the rover's fifth scoop of Martian dirt. The black semi-circle at the bottom is the shadow of the beam stop. Image released (Science/AAAS)

Future Mars explorers may be able to get all the water they need out of the red dirt

beneath their boots, a new study suggests.



NASA's Mars rover Curiosity has found that surface soil on the Red Planet contains about 2 percent water by weight. That means astronaut pioneers could extract roughly 2 pints of water out of every cubic foot of Martian dirt they dig up, said study lead author Laurie Leshin, of Rensselaer Polytechnic Institute in Troy, N.Y. "For me, that was a big 'wow' moment," Leshin told SPACE.com. "I was really happy when we saw that there's easily accessible water here in the dirt beneath your feet. And it's probably true anywhere you go on Mars." [[The Search for Water on Mars \(Photos\)](#)]

The new study is one of five papers published in the journal *Science* Thursday that report what researchers have learned about Martian surface materials from the work Curiosity did during its first 100 days on the Red Planet.

Soaking up atmospheric water

Curiosity touched down inside Mars' huge Gale Crater in August 2012, kicking off a planned two-year surface mission to determine if the Red Planet could ever have supported microbial life. It achieved that goal in March, when it found that a spot near its landing site called Yellowknife Bay [was indeed habitable](#) billions of years ago. The dirt is acting like a bit of a sponge and absorbing water from the atmosphere.' - Laurie Leshin, of Rensselaer Polytechnic Institute.

But Curiosity did quite a bit of science work before getting to Yellowknife Bay. Leshin and her colleagues looked at the results of Curiosity's first extensive Mars soil analyses, which the 1-ton rover performed on dirt that it scooped up at a sandy site called Rocknest in November 2012. Using its Sample Analysis at Mars instrument, or SAM, Curiosity heated this dirt to a temperature of 1,535 degrees Fahrenheit, and then identified the gases that boiled off. SAM saw significant amounts of carbon dioxide, oxygen and sulfur compounds — and lots of water on Mars.

SAM also determined that the soil water is rich in deuterium, a "heavy" isotope of hydrogen that contains one neutron and one proton (as opposed to "normal" hydrogen atoms, which have no neutrons). The water in Mars' thin air sports a similar deuterium ratio, Leshin said. "That tells us that the dirt is acting like a bit of a sponge and absorbing water from the atmosphere," she said.

Some bad news for manned exploration

SAM detected some organic compounds in the Rocknest sample as well — carbon-containing chemicals that are the building blocks of life here on Earth. But as mission scientists reported late last year, these are simple, chlorinated organics that likely have nothing to do with Martian life. [[The Hunt for Martian Life: A Photo Timeline](#)] Instead, Leshin said, they were probably produced when organics that hitched a ride from Earth reacted with chlorine atoms released by a toxic chemical in the sample called perchlorate.

Perchlorate is known to exist in Martian dirt; NASA's Phoenix lander spotted it near the planet's north pole in 2008. Curiosity has now found evidence of it near the equator, suggesting that the chemical is common across the planet. (Indeed, observations by a variety of robotic Mars explorers indicate that Red Planet dirt is likely similar from place to place, distributed in a global layer across the surface, Leshin said.) The presence of perchlorate is a challenge that architects of future [manned Mars missions](#) will have to overcome, Leshin said. "Perchlorate is not good for people. We have to figure out, if humans are going to come into contact with the soil, how to deal with that," she said.

"That's the reason we send robotic explorers before we send humans — to try to really understand both the opportunities and the good stuff, and the challenges we need to work through," Leshin added.

A wealth of discoveries

The four other papers published in Science today report exciting results as well. For example...

To read this article in its entirety, go to:

<http://www.foxnews.com/science/2013/09/26/curiosity-rover-makes-big-water-discovery-in-mars-dirt/>

Note from Pastor Kevin Lea: This news comes as no surprise to those who have followed Dr. Brown's Hydroplate Theory Explanation for the flood of Noah. Dr. Brown's predictions about what would be found in the Wild2 comet tail dust (brought back by Stardust Space Probe) have come true in the past (<http://calvarypo.org/HANDS/0282.pdf>), and now his predictions about what will be found on Mars have come true.

True scientists are willing to make predictions based on their theories. Having those predictions come true adds strength to the argument that the theory is correct. When the facts do not support a theory's predictions, then the theory should be altered or discarded.

The scientists operating from an evolutionary paradigm are surprised by what they are finding on Mars. However, Dr. Brown is not surprised at all since the Mars discoveries are completely consistent with his predictions based on the Hydroplate Theory.

Those interested in reading more about Dr. Brown's explanation on the origin of comets and asteroids, and how they relate to Mars, can do so by going to his on-line book:

<http://www.creationscience.com/onlinebook/Comets.html> and

<http://www.creationscience.com/onlinebook/Asteroids.html>