Opportunity Reaches First Target Inside Crater

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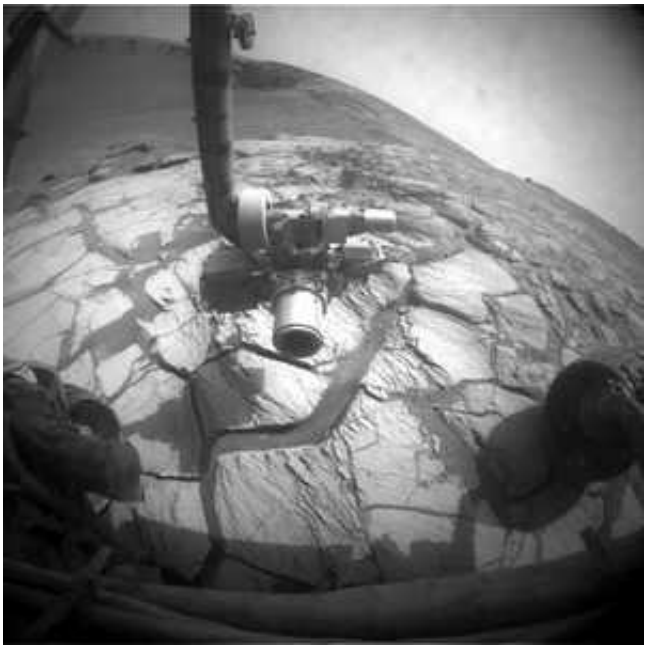

A layer of light-toned rock exposed inside Victoria Crater in the Meridiani Planum region of Mars appears to mark where the surface was at the time, many millions of years ago, when an impact excavated the crater. Image credit: NASA/JPL-Caltech

NASA's Mars Exploration Rover Opportunity has reached its science team's first destination for the rover inside Victoria Crater, information received from Mars late Tuesday confirms.

Opportunity has descended the inner slope of the 800-meter-wide crater

(half a mile wide) to a band of relatively bright bedrock exposed partway down. The rover is in position to touch a selected slab of rock with tools at the end of its robotic arm, after safety checks being commanded because the rover is at a 25-degree tilt. Researchers intend to begin examining the rock with those tools later this week.

"This will be the first of several stops within this band of rock," said Steve Squyres of Cornell University, Ithaca, N.Y., principal investigator for the science payloads on Opportunity and its twin rover, Spirit. "By sampling it at several different levels in the crater, we're hoping to figure out the processes that led to its formation and its very distinctive appearance."

Opportunity drove 2.25 meters (7.38 feet) on Sept. 25 to get the selected flat rock within reach. That was the 1,305th Martian day of a mission originally planned for 90 Martian days. After entering the crater on Sept. 13 for a multi-week investigation of rock exposed inside, the rover advanced toward the bright band with drives of 7.45 meters (24 feet) on Sept. 18, and 2.47 meters (8 feet) on Sept. 22.

"We have completed several successful drives with Opportunity inside Victoria Crater," said John Callas, Mars rover project manager at NASA's Jet Propulsion Laboratory, Pasadena, Calif. "The rover is experiencing slopes as high as 25 degrees at some places, but wheel slippage has only been around 10 percent."

Spirit, meanwhile, is exploring the top surface of a plateau called "Home Plate," where rocks hold evidence about an explosive combination of water and volcanism. JPL, a division of the California Institute of Technology, Pasadena, manages the Mars Exploration Rover project for the NASA Science Mission Directorate, Washington.

Source: NASA