

# Opportunity Gets A Timely Dust Off And Regains Energy At The Four-Mile Mark

November 23 2005

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Opportunity is healthy. The solar array was apparently cleaned again on sol 638. Average solar array energy is around 720 watt-hours after the cleaning event!

Opportunity finished a campaign using the robotic arm on a cobble called "Antistasi." The Moessbauer spectrometer and alpha particle X-ray spectrometer data show that the cobble is very basaltic.

On Sol 645 Opportunity drove 22 meters (about 72 feet) south on an outcrop path around "Erebus Crater." This drive pushed Opportunity's total driving distance past the four-mile mark.

## **Sol-by-sol summaries**

Sol 641 (Nov. 12, 2005): Opportunity unstowed the robotic arm, changed tools to the Moessbauer spectrometer and did a Moessbauer integration on a cobble called Antistasi.

Sol 642: The rover continued the Moessbauer integration on Antistasi up to the afternoon Mars Odyssey pass. It changed tools to the alpha particle X-ray spectrometer and started an overnight integration on Antistasi.

Sol 643: Opportunity changed tools to the Moessbauer spectrometer and started an integration. The rover then monitored dust with the panoramic camera and imaged surrounding cobbles.

Sol 644: The Moessbauer integration on Antistasi continued and panoramic-camera imaging of the surrounding outcrops was conducted.

Sol 645: Opportunity drove about 20 meters (about 66 feet) on an outcrop path so the rover would be able to analyze the outcrops more with the panoramic camera. Also, the panoramic camera was used for studying terrain for future drives.

Sol 646: The rover did untargeted remote sensing.

Sol 647: The plan for this sol is for Opportunity to check its composition and calibration target with the Moessbauer spectrometer, microscopic imager and alpha particle X-ray spectrometer. Also planned are observations of outcrop targets called "Show Low" and "Sedona" with the panoramic camera.

Sol 648 (Nov. 19, 2005): The plan is to conduct Moessbauer-spectrometer integration on the composition and calibration target, and to use the panoramic camera to observe an outcrop target called "Winslow" and a cobble target called "Snowflake."

Opportunity has driven a total of 6,446.45 meters (4.01 miles).

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