

Spirit Studies Layered Rocks

February 26 2006



Spirit will soon be on top of the rugged plateau known as "Home Plate," which features the most spectacular layering Spirit has yet encountered, and begin taking images of the surrounding terrain. Spirit had a productive week investigating two rock targets, "Barnhill" and "Posey."

A restricted planning period (resulting from periodic, limited opportunities to communicate with overhead satellites) gave Spirit an opportunity to spend a few sols (Martian days) engaged in untargeted remote sensing and atmospheric science. The rover also charged its batteries. The science team is assigning nicknames to surface features honoring star players and managers of the Negro Leagues of baseball in the first half of the 20th century.

Sol-by-sol summaries:

Sol 750 (Feb. 11, 2006): Spirit examined a rock target dubbed "Pitcher" with the microscopic imager, then completed an overnight study of a rock target dubbed "Fastball" with the alpha particle X-ray spectrometer.

Sol 751: Spirit stowed the robotic arm and executed a commanded, 5.3-meter (17-foot) drive to Posey using visual odometry. The drive went exactly as planned and ended with the rover in place to immediately begin scientific studies with the robotic arm without further adjustment of the rover's position.

Sol 752: Spirit conducted light remote sensing and recharged the rover's batteries.

Sol 753: Spirit acquired images of a rock target dubbed "Gray" using the microscopic imager, brushed a surface target known as "Manager" using the rock abrasion tool, and completed an 18-hour analysis of Manager using the Moessbauer spectrometer. The science team opted to complete an overnight Moessbauer study before conducting an overnight alpha particle X-ray spectrometer study in order to decide how long to stay at this location. Because the Moessbauer spectrum was similar to that of an earlier un-brushed target nicknamed Barnhill, the team directed the rover to resume driving after collecting the alpha particle X-ray spectrometer data.

Sol 754: Spirit took after-brushing images of Manager with the microscopic imager, finished the analysis of Manager with the alpha particle X-ray spectrometer, and took panoramic camera images of Barnhill.

Sol 755 (Feb. 16, 2006): Before moving on, Spirit rolled back from Manager and collected data from the site with the miniature thermal

emission spectrometer. The rover paused to take mid-drive images with the navigation camera before "sliding into" Home Plate after driving 10 meters (33 feet) using visual odometry and 1.5 meters (4.9 feet) using autonomous navigation.

Odometry:

As of sol 755, Spirit's total odometry was 6,575 meters (4.09 miles).

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