Spirit Studies New Terrain At Its Winter Haven

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After some anxious days earlier this month, when mission controllers worried about Spirit's prospects for continued operations through the Martian winter, they have now pronounced the rover hobbled but healthy.

Last week, controllers at NASA's Jet Propulsion Laboratory directed Spirit to begin acquiring a full-color high-resolution 360-degree panorama they have nicknamed the McMurdo Pan. The process actually will take a few weeks because of power and data limitations, they said.

Spirit also studied a soil target called Mawson, using instruments on its robotic arm. Controllers decided to name all of the rock and soil targets in this area of Gusev Crater after Antarctic research stations and explorers.

Meanwhile, Opportunity likewise remains healthy - and still is running on all six wheels, unlike Spirit. Controllers report the rover is making good progress toward Victoria Crater, on the Meridiani Planum.

Like Spirit, Opportunity remains on restricted schedule, driving only every other day. Last week, the rover stopped for some brief robotic arm work, to characterize the outcrop between Erebus Crater and Victoria Crater. This week, controllers plan to bring Opportunity back to a more normal itinerary, and are hoping to get the rover moving every day.

Sol-by-sol highlights:

Spirit:

Sol 812 (April 16): Spirit performed targeted remote sensing with the miniature thermal emission spectrometer and acquired microscopic images of undisturbed soil.

Sol 813: Spirit conducted targeted remote sensing with the panoramic camera.

Sol 814: Spirit began acquisition of the McMurdo Pan. The rover studied a soil target called Mawson with the alpha particle X-ray spectrometer.

Sol 815: Spirit conducted targeted remote sensing with the panoramic camera and the miniature thermal emission spectrometer.

Sol 816: Rather than pause for new instructions, Spirit continued to

acquire panoramic camera data following master sequences already transmitted to the rover.

Sols 817 to 819 (April 21-23): Plans called for Spirit to continue work on the McMurdo panorama, complete overnight studies of the soil target called Mawson with the Mössbauer spectrometer, and conduct targeted remote sensing.

Given its currently limited driving tasks, as of sol 816 (April 20), Spirit's total odometry remained at 6,876.18 meters, or 4.27 miles.

Opportunity:

Sol 789 (April 13): The plan was to drive to outcrop about 26 meters (85 feet) away. However, the drive stopped about 10 meters (33 feet) short by a slip check.

Sol 790: Opportunity conducted untargeted remote science.

Sol 791: The rover did some robotic-arm work, including taking microscopic images and using the rock abrasion tool brush, and attempting a brief alpha-particle X-ray spectrometer integration - which failed due to a sequencing error.

Sol 792: Opportunity drove about 35 meters (115 feet) over an outcrop and crossed a few ripples.

Sol 793: The rover conducted untargeted remote science.

Sol 794: Opportunity drove about 30 meters (98 feet) toward Victoria Crater.

Sol 795: The rover conducted untargeted remote science.

Sol 796: After taking pre-drive images of the target Fort Leavenworth, the team planned to drive about 27 meters (86 feet) down a trough, with ripple crossings at the start and end.

Sol 797 (April 21): Opportunity did untargeted remote sensing, systematic ground surveys with the panoramic camera and miniature thermal emission spectrometer.

As of sol 794, Opportunity's total odometry was 7,334.56 meters, or 4.56 miles.