

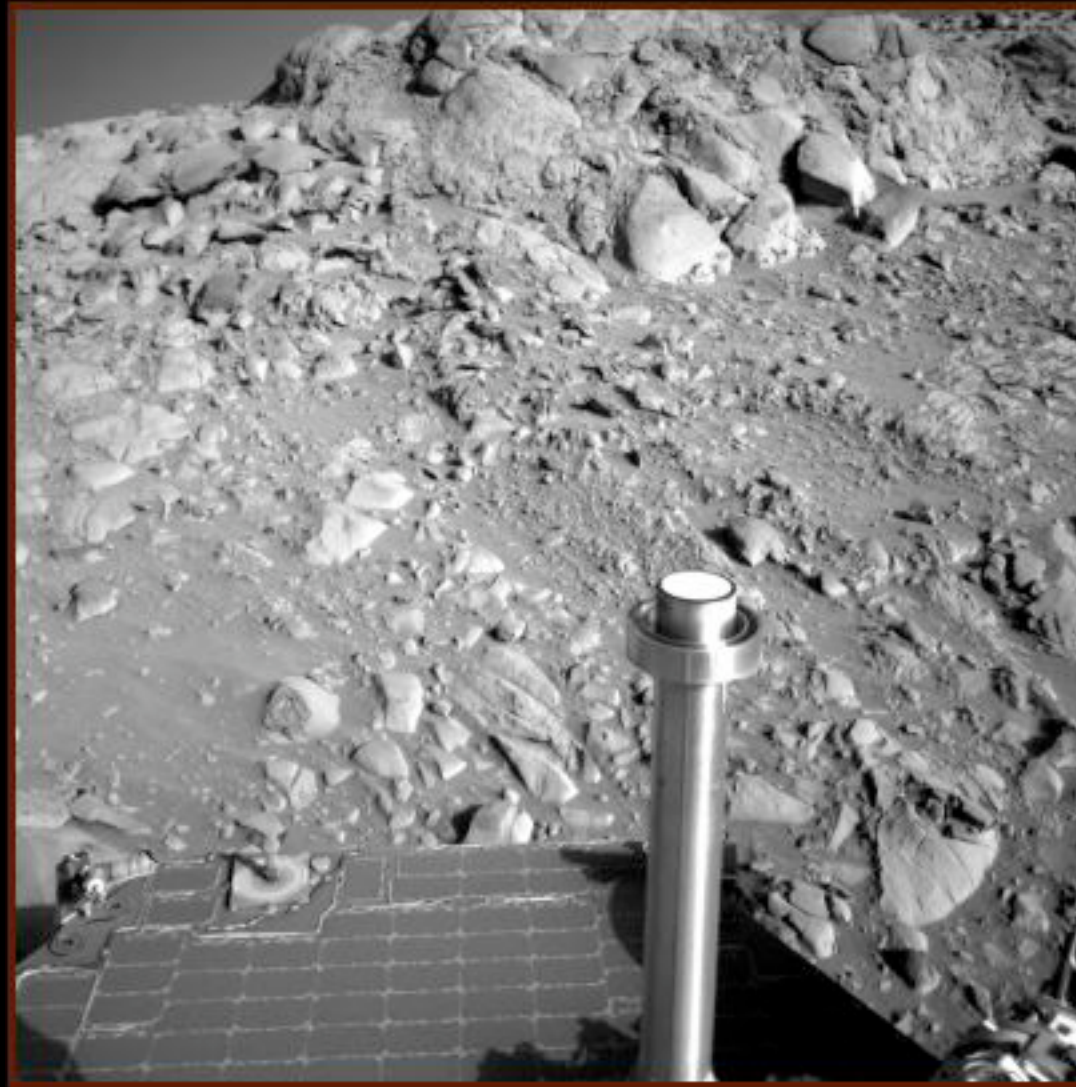
Mars Exploration Rover Mission

**Spirit
and
Opportunity**



**Week in Review
July 31 - August 6**

**Spirit spent the week in a mighty uphill battle
as the team attempted to reach the Clovis outcrop.**



Right navigation camera image, July 31, 2004.

Rover tracks show how Spirit slipped in a sandy hollow and danced around the outcrop on July 31.



Left navigation camera image, July 31, 2004.

Due to challenging terrain, Spirit experienced a 125% slip on August 1st and lost ground in its effort to move uphill.



Navigation camera image, August 1, 2004.

Later that day, a 50-micro-second timing problem caused Spirit to receive two commands at nearly the same time.



Front hazard-avoidance camera image, August 1, 2004.

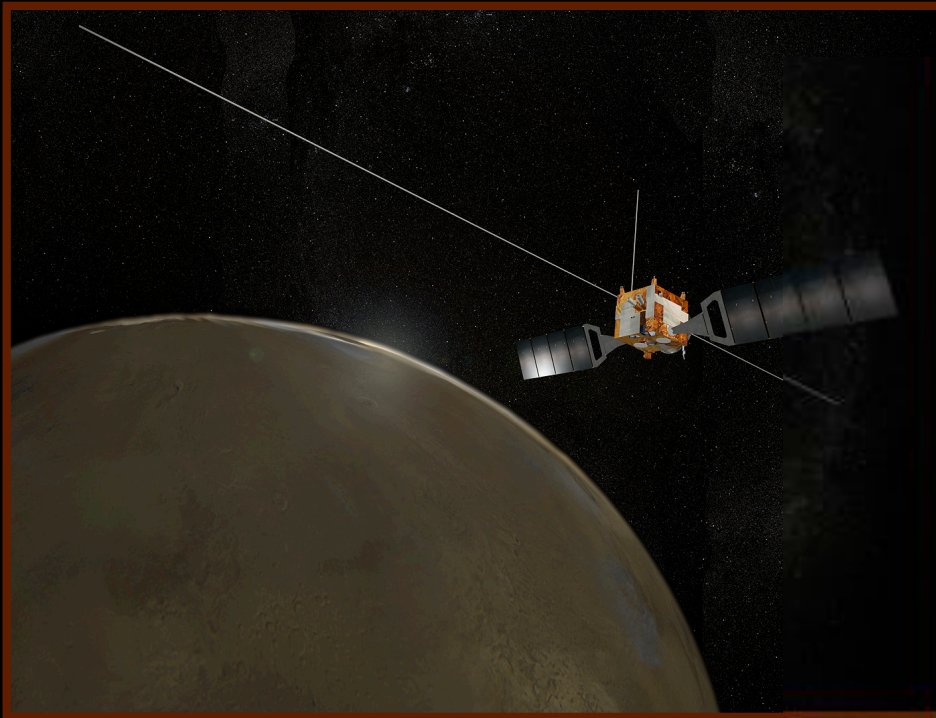
Automatically, Spirit temporarily shut down a few of the science instruments to await further instructions.

Engineers solved the timing-error problems. Spirit then twisted through the treacherous terrain, finally making it to the Clovis outcrop by August 5 for research.



Front hazard-avoidance camera image, August 5, 2004.

During the week, both Spirit and Opportunity performed multiple communication experiments with the European Space Agency's Mars Express orbiter.

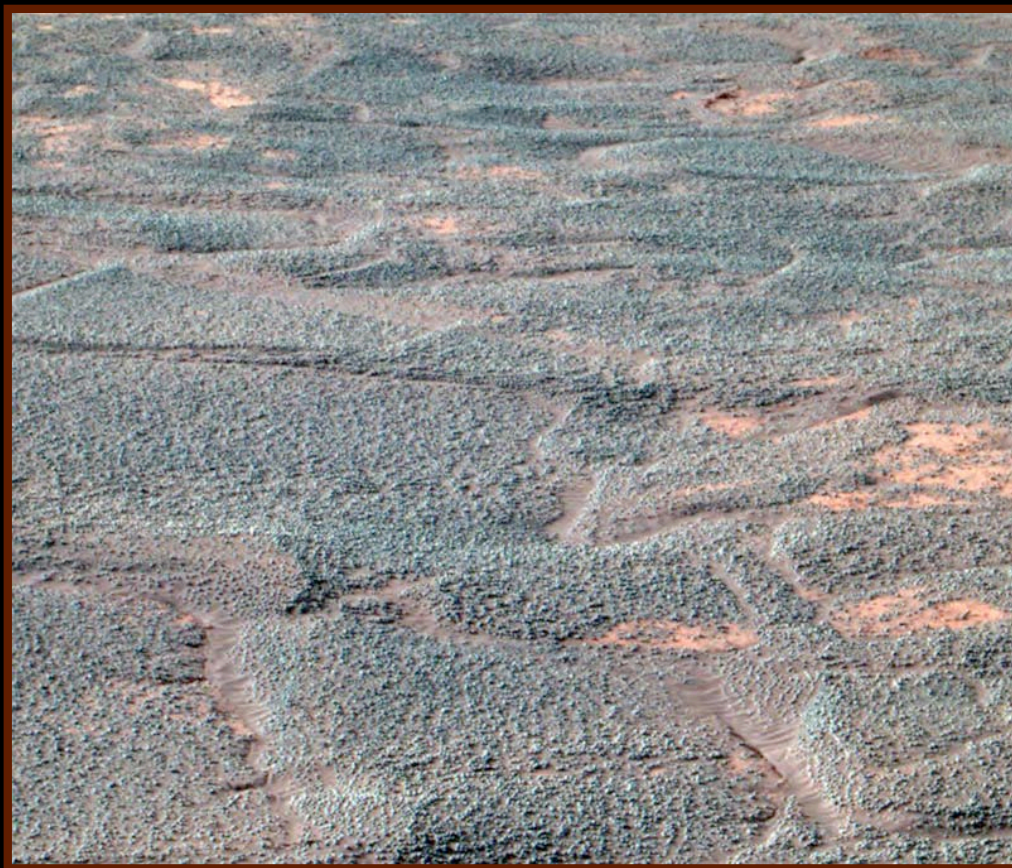


Artist's rendering of Mars Express orbiting Mars.



Navigation camera image of the big sky area around the Clovis outcrop.

By sending back this and fifteen other images, Mars Express successfully demonstrated that the orbiter could serve as a communications link if needed.



*False-color panoramic
camera image,
August 4, 2004.*

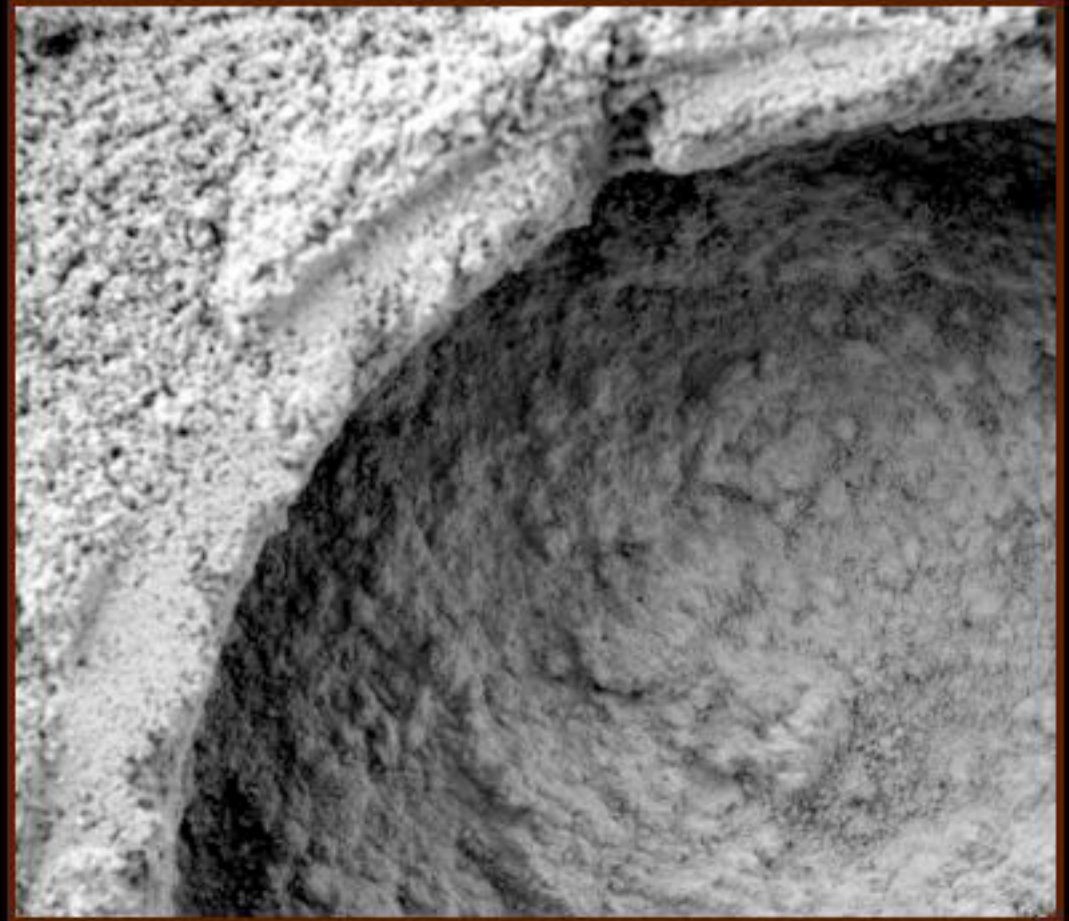
This reliable communications link will benefit future Mars missions and increase the amount of data sent back to Earth from rovers and landers.

Opportunity



Opportunity was also busy this week investigating a target called “Tuktoyuktuk.”

Opportunity used its rock abrasion tool to gnaw a hole deep into the target.



Microscopic imager, August 3, 2004.

Opportunity spent August 3rd and 4th driving eastward in the crater, slightly slipping down sandy patches.



Panoramic camera image taken inside Endurance Crater on August 4, 2004.

On August 5th and 6th, Opportunity drove 28 feet (8.5 meters) closer to a rock outcropping.



Navigation camera image taken August 5, 2004

The outcrop is named “Axel Heiberg” after an island in the Canadian Arctic.

Over the next few days, Opportunity will continue to drive closer to Axel Heiberg and perform science experiments.



Panoramic camera image taken August 5, 2004

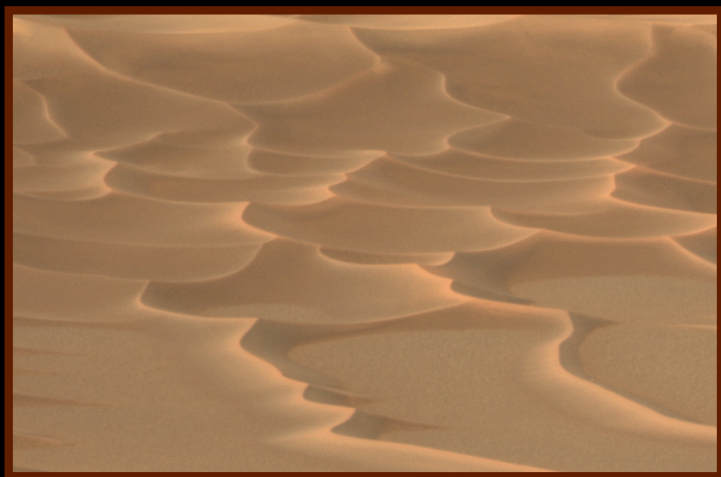


COMING UP!

Research at the Clovis outcrop will likely be the subject of Spirit's most intensive multi-sol investigation to date.



Front hazard-avoidance camera image of the Clovis outcrop.



Approximate true-color panoramic camera image.

Opportunity will eventually head closer to the dune field at the bottom of Endurance Crater if it is firm enough to allow the rover to drive back out.