

Mars Exploration Rover Mission

**Spirit
and
Opportunity**



**Week in Review
June 12 - June 18**



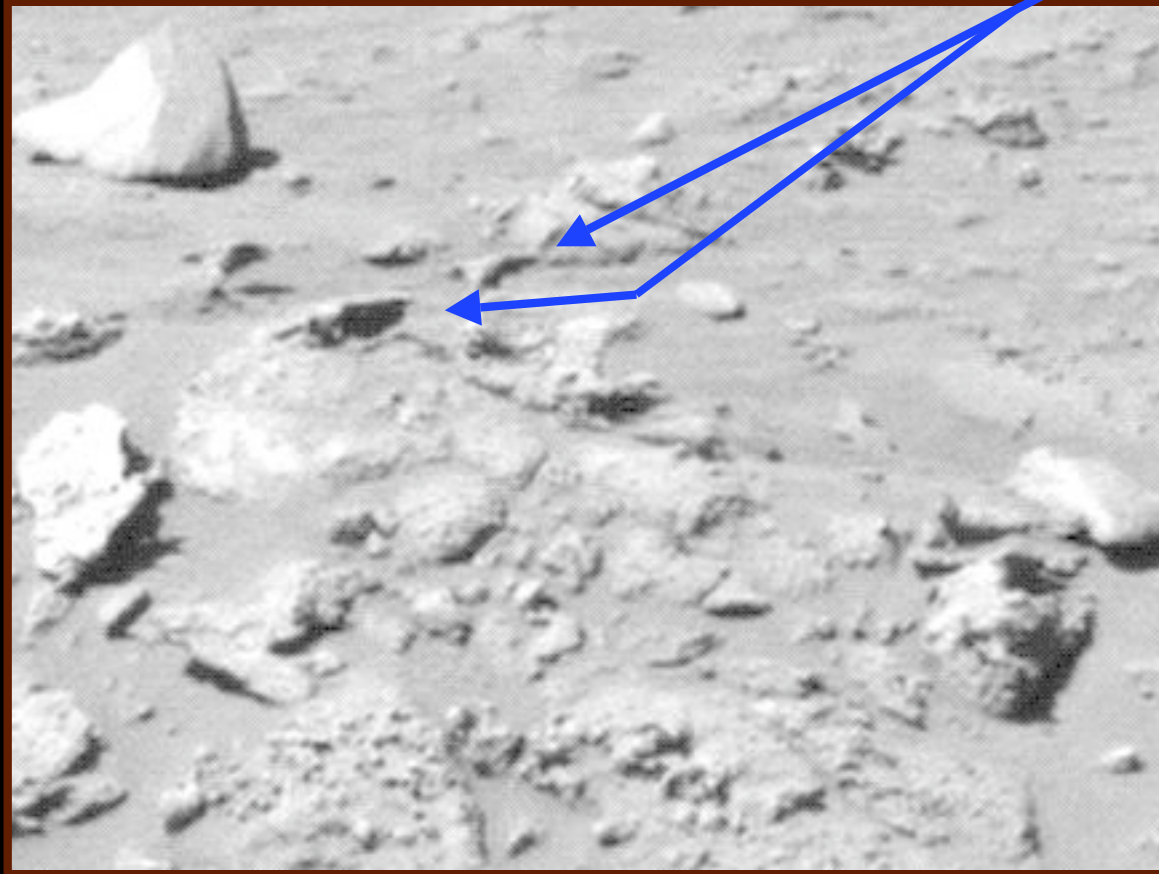
This week, Spirit began exploring a range of martian hills called “Columbia,” which took two months to reach.



Navigation camera mosaic taken June 11, 2004.

The Columbia Hills rise approximately 300 feet (90 meters) above the plain.

On June 11, 2004, Spirit captured this image of odd rock formations dubbed “Cobra Hoods.”

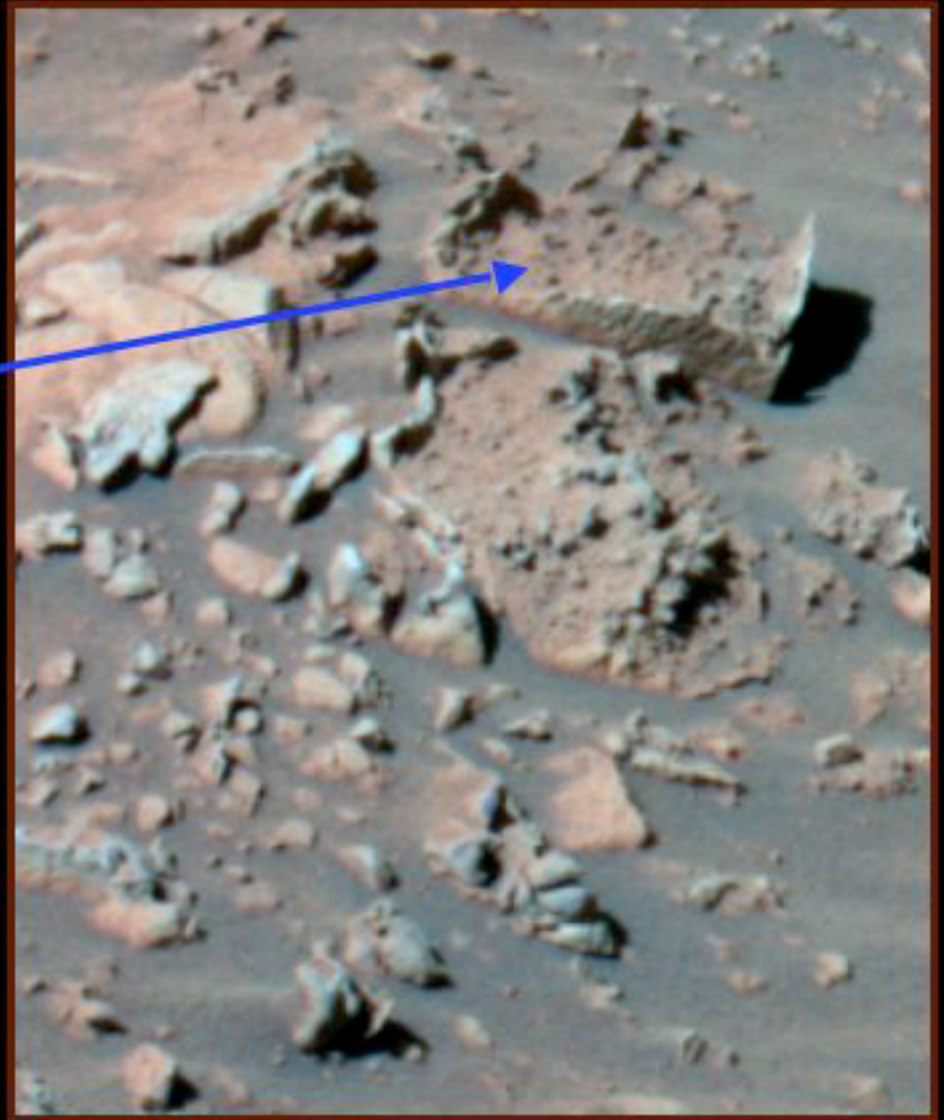


Panoramic camera image.

This resistant rock is unlike anything they’ve seen on Mars so far, and scientists will investigate the rocks in coming sols.

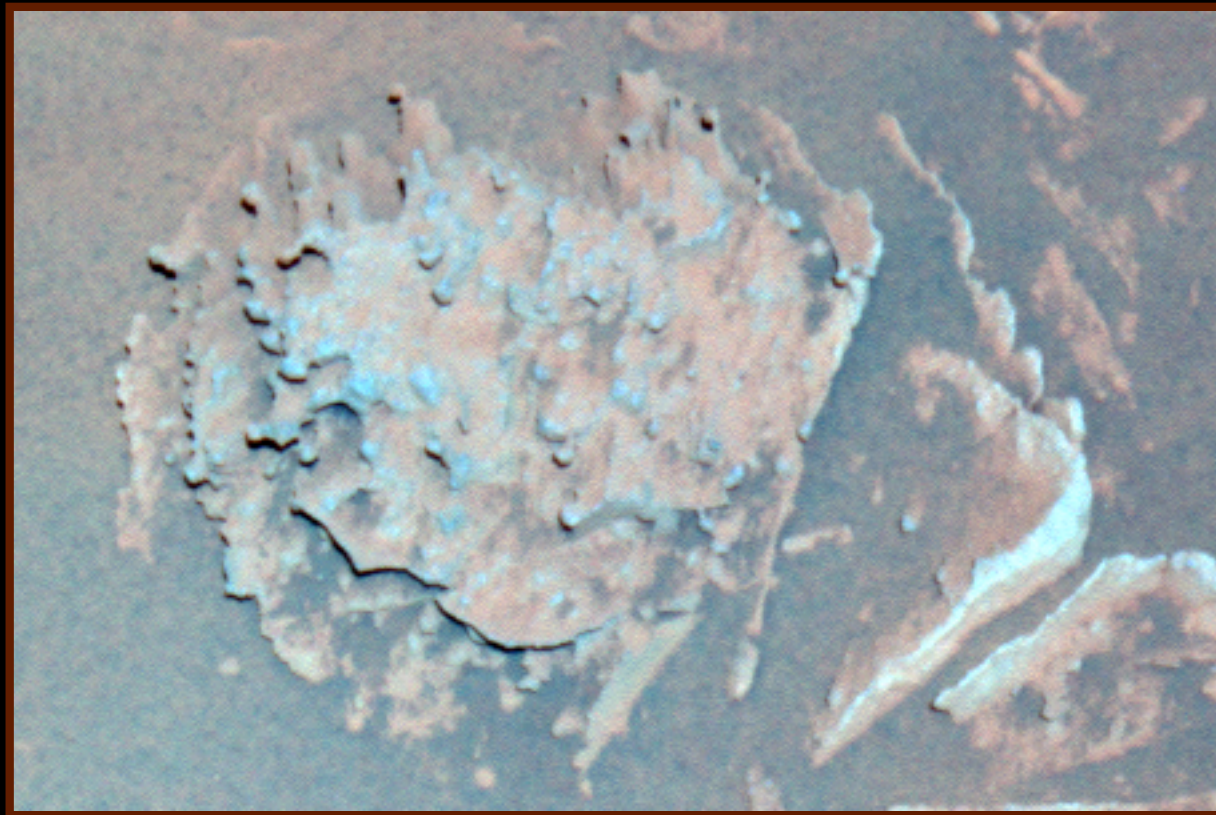
A collection of rocks that resemble rotting loaves of bread have also captured scientists' attention.

The insides of the rocks appear to have been eroded, while their outer rinds remain intact.



*False-color panoramic camera image
taken on June 13, 2004.*

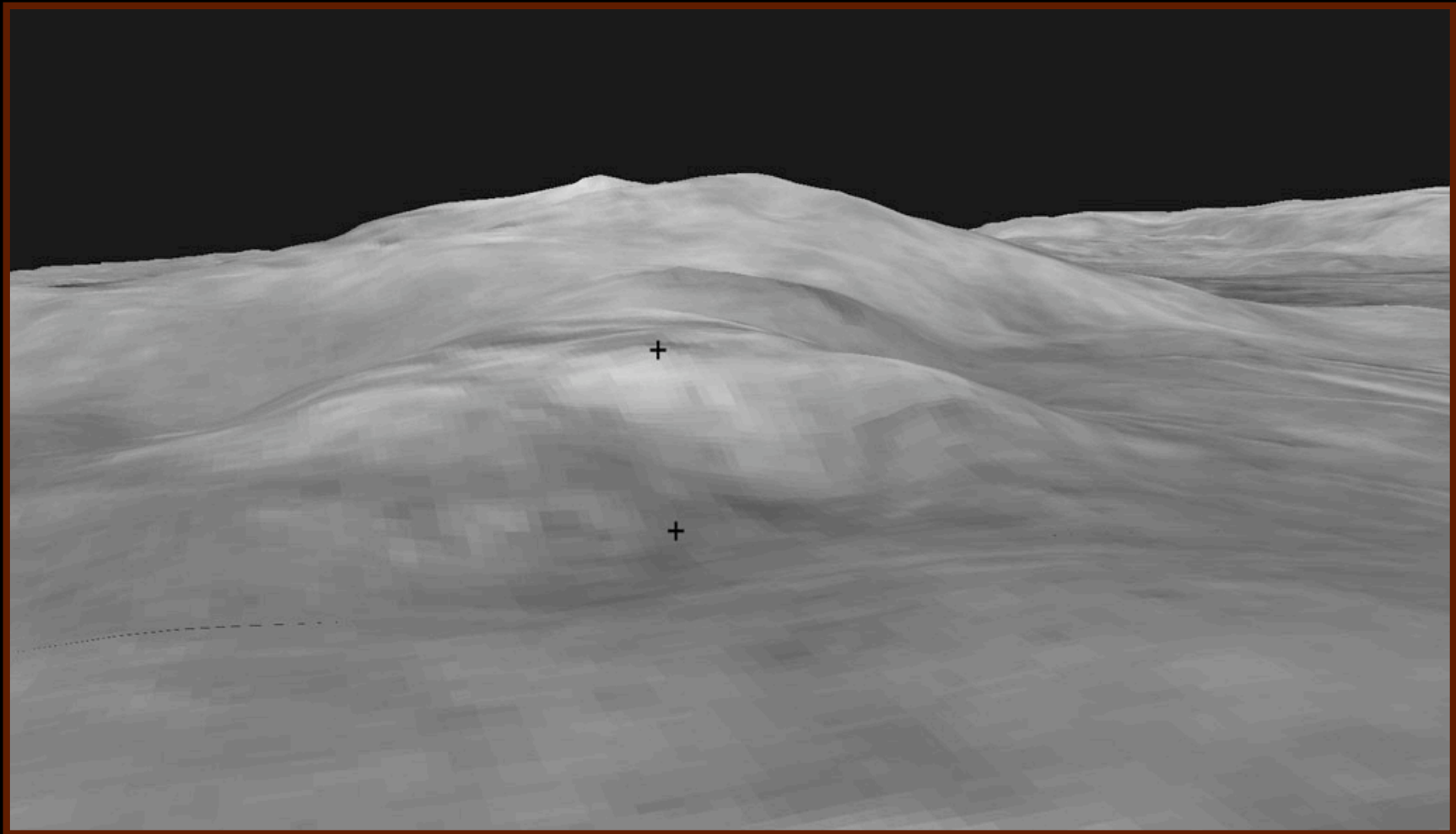
**With never a dull moment on Mars,
scientists were also intrigued by this unusual-looking,
nodule-covered rock dubbed “Pot of Gold.”**



False-color panoramic camera image taken on June 14, 2004.

**Spirit team members plan to investigate its
detailed chemistry in the coming sols.**

Rover drivers are currently plotting the best route for Spirit to climb the front hill, called “West Spur.”



*Data from the Mars Orbital Camera on the orbiting Mars Global Surveyor were used to create this 3-Dimensional map.
Image credit: NASA/JPL/USGS/MSSS*

The direct path straight up the central blue area, which correlate to the crosshatches in the previous image, may be too steep for Spirit to climb safely.

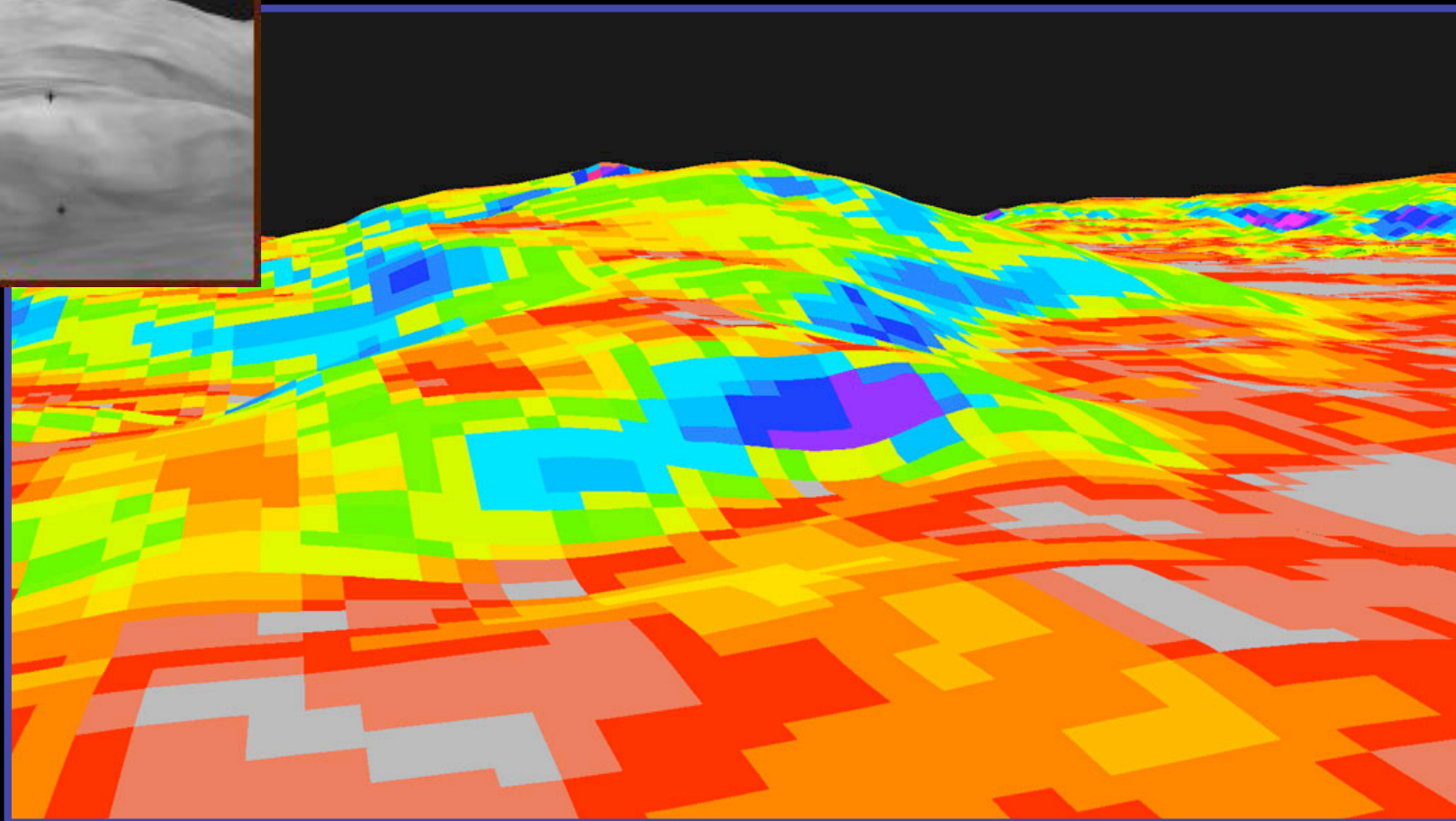
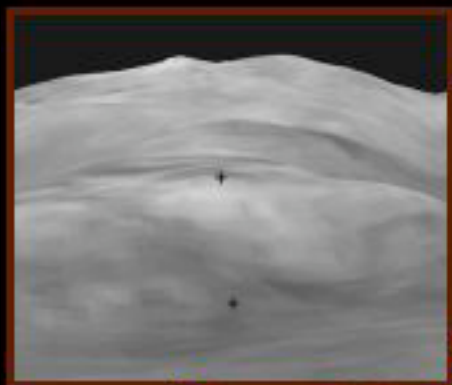


Image credit: NASA/JPL/USGS/MSSS

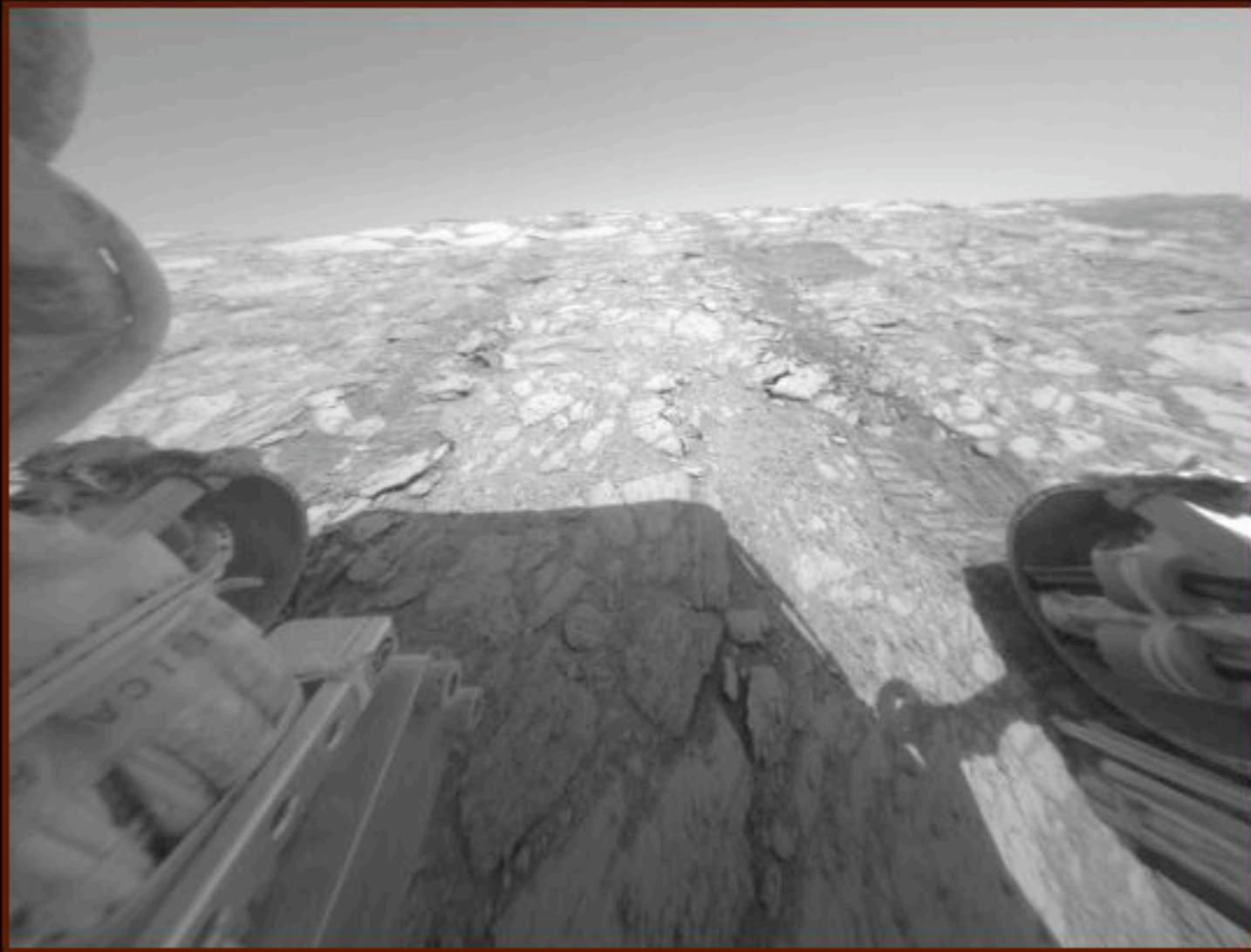


gentle slopes



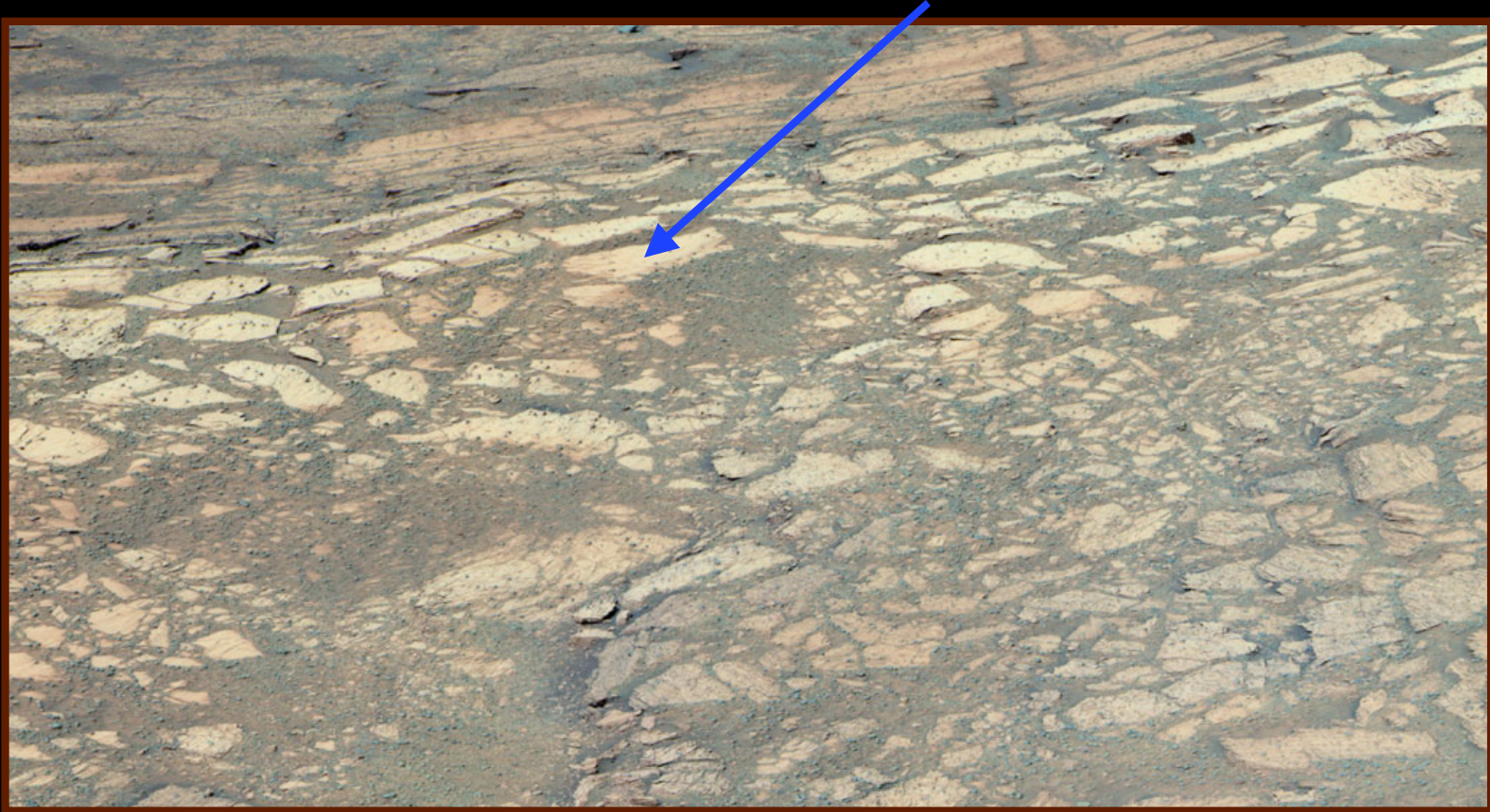
steep slopes

**Meanwhile, Opportunity drove 16 feet (5 meters)
down into Endurance Crater this week.**



Rear hazard-avoidance camera image taken on June 12, 2004.

Opportunity stopped to investigate an area of flat rock dubbed “Tennessee” because of its shape.



False-color panoramic camera image taken June 8, 2004.

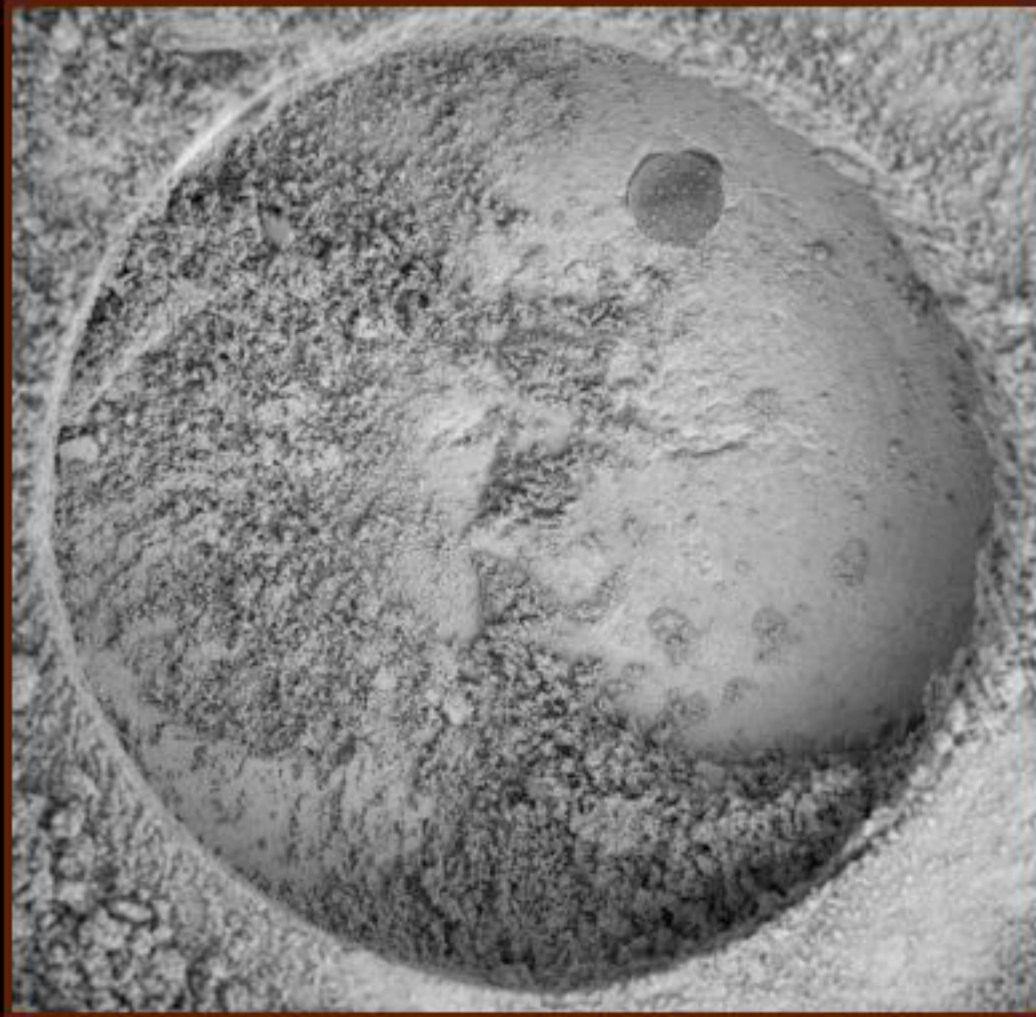
Tennessee may be made of the same water-lain, evaporite-rich materials as those found in Eagle Crater where Opportunity landed.

Scientists decided to drill a hole into Tennessee using the rock abrasion tool.



They wanted to study the inner mineral composition of the rock in an attempt to figure out how these rocks were formed.

The Tennessee grind turned out to be the deepest drilling performance so far during the rover mission.



The hole is 0.32 inches (8.12 millimeters) deep and took 2 hours and 4 minutes to complete.

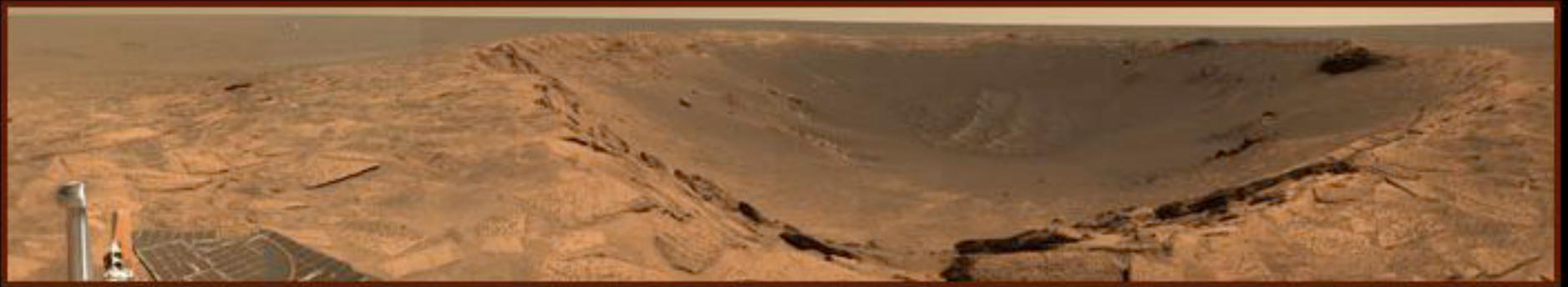
Chemical results are pending.

Mosaic of microscopic images taken on June 14, 2004.

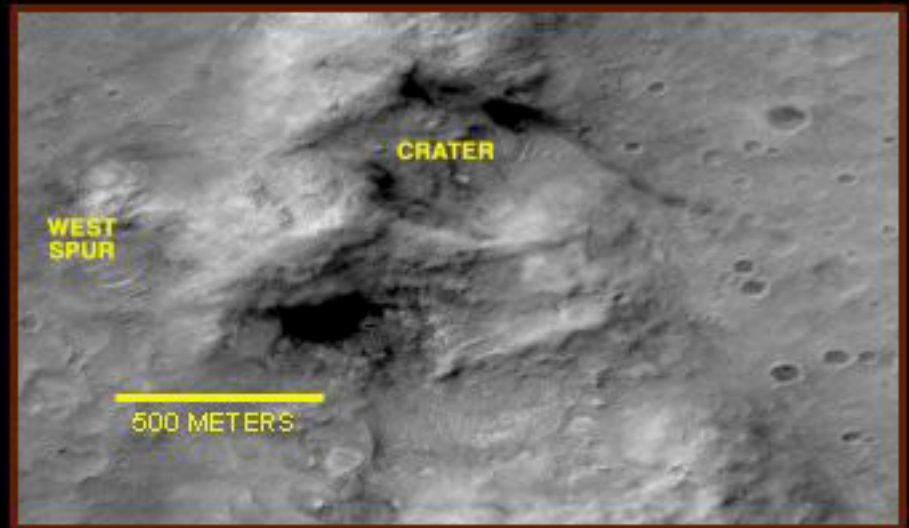


COMING UP!

Opportunity will continue investigating Endurance Crater. This view took 7 sols to complete, using 81 separate camera positions and six filters per position.



Scientists plan to stay around Columbia Hills for quite some time, perhaps moving Spirit around to the inner basin in the hills.



*Orbital image from Mars Global Surveyor.
Image credit: NASA/JPL/MSSS*