

Curiosity on Mars: Rover Ready to Switch Gears

I'm Ashwin Vasavada, deputy project scientist for the Mars Science Laboratory and this is your Curiosity Rover Report.

It's been a fantastic 300 sols. Actually, the discoveries began even before landing. On the way to Mars, Curiosity's Radiation Assessment Detector, or RAD, measured the high-energy radiation from within the capsule that enclosed the rover. These measurements will help NASA protect astronauts when *they* fly within spacecraft and are exposed to deep space radiation. It turns out that it's equivalent to getting a full-body CT scan every five or six days. By using Curiosity's data, NASA will learn how much shielding is needed to reduce the risk to astronauts.

After touching down on Mars, Curiosity drove away from Bradbury Landing toward a region called Glenelg, where three types of terrain come together. We were hoping that one of these terrains, consisting of light-toned and fractured bedrock, might teach us something about an ancient dry riverbed that we spotted from orbit. This river appeared to have started high on the rim of Gale Crater and flowed toward the site where Curiosity landed, spreading sediment in a fan across the crater floor.

Even before we got to Glenelg, we began to see slabs of a rock called a conglomerate. By studying the size of the pebbles within the conglomerate, and by noting how rounded they had become, the team was able to conclude that they were carried by water ankle-deep to hip-deep, flowing at about walking speed, and extending for at least a few miles. Curiosity actually set her wheels within an ancient streambed.

Getting back to the present, Curiosity just finished drilling her second rock in Yellowknife Bay, in order to confirm the remarkable discovery of an ancient habitable environment, and to see if there is any variation among the rocks within Yellowknife Bay.

We're now headed in the direction of our ultimate destination, Mount Sharp, five miles and several months away. Along the journey, the science team will continue to explore for evidence related to the habitability of ancient Mars.

This has been your Curiosity rover report. Check back for more updates.