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Hi, I'm Ashwin Vasavada, the deputy project scientist for the Mars Science Laboratory

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and this is your Curiosity rover update. It's been a momentous week for Curiosity.

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We've wrapped up our scientific study of Rocknest, which also means that we've completed the checkout

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and first scientific use of all our instruments on the rover and it truly is working great.

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We began the Rocknest campaign by searching for a suitable drift of sandy soil

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using our Mastcam color cameras. We used our ChemCam laser and our APXS chemical sensor

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to do an initial technical analysis of the soil, determining whether

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it was similar to soils that we understand from Spirit and Opportunity

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and therefore safe for scooping and sending to our laboratories.

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We use MAHLI, our hand lens imager to take close up views of the soil

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to look at different particle sizes, shapes and colors and how they change with depth.

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We then scooped up the soil and analyzed it if our X-ray diffraction instrument

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that can identify minerals in the soil based on their unique crystal structure.

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But it turned out that a good amount of the material in the soil

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was not crystalline, but that's no problem for our other laboratory, SAM.

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SAM heated up the soil in an oven and measured various gases released as the soil

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components broke down, such as water, carbon dioxide, oxygen and sulfur.

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Not surprisingly, the results show a composition that is typical of Mars soils studied at

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other sites with perhaps some very simple carbon containing molecules and perchlorate salts.

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We haven't yet seen any complex organic molecules but sand isn't the best place to look.

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Finally, it's worth remembering that the big questions in science whether Copernicus

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finding that the Earth goes around the sun or Darwin showing that natural selection

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drives biological evolution, were answered only after many measurements were taken

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compared against one another and hypotheses were proposed and tested against the data.

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Only then can the big picture emerge and the theory get accepted.

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It'll be no different for Curiosity in its mission to understand the habitability of ancient

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Mars at Gale Crater. There won't be any single image or measurement that'll answer everything.

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We're in it for the long haul. But now we know that we have a fantastic rover, a great set of