

Preparatory drill test performed on Mars

February 7 2013, by Guy Webster



In an activity called the "mini drill test," NASA's Mars rover Curiosity used its drill to generate this ring of powdered rock for inspection in advance of the rover's first full drilling. Credit: NASA/JPL-Caltech/MSSS

(Phys.org)—The drill on NASA's Mars rover Curiosity used both percussion and rotation to bore about 0.8 inch (2 centimeters) into a rock on Mars and generate cuttings for evaluation in advance of the rover's first sample-collection drilling.

Completion of this "mini drill" test in preparation for full drilling was confirmed in data from Mars received late Wednesday at NASA's Jet Propulsion Laboratory, Pasadena, Calif. If the drill cuttings on the ground around the fresh hole pass visual evaluation as suitable for processing by the rover's sample handling mechanisms, the rover team plans to proceed with commanding the first full drilling in coming days.



After an activity called the "mini drill test" by NASA's Mars rover Curiosity, the rover's Mars Hand Lens Imager (MAHLI) camera recorded this close-up view of the results during the 180th Martian day, or sol, of the rover's work on Mars (Feb. 6, 2013). Credit: NASA/JPL-Caltech/MSS

The test was performed on a patch of flat, vein-bearing rock called "John Klein." The locations of earlier percussion-only testing and planned

sample-collection drilling are also on John Klein. Pre-drilling observations of this rock yielded indications of one or more episodes of wet [environmental conditions](#). The team plans to use Curiosity's laboratory instruments to analyze sample powder from inside the rock to learn more about the site's environmental history.

The planned full drilling will be the first rock drilling on Mars to collect a sample of material for analysis.

During a two-year prime mission, researchers are using Curiosity's 10 [science instruments](#) to assess whether the study area in Gale Crater on Mars ever has offered environmental conditions favorable for [microbial life](#).

Provided by NASA

Citation: Preparatory drill test performed on Mars (2013, February 7) retrieved 27 April 2024 from <https://phys.org/news/2013-02-preparatory-drill-mars.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--