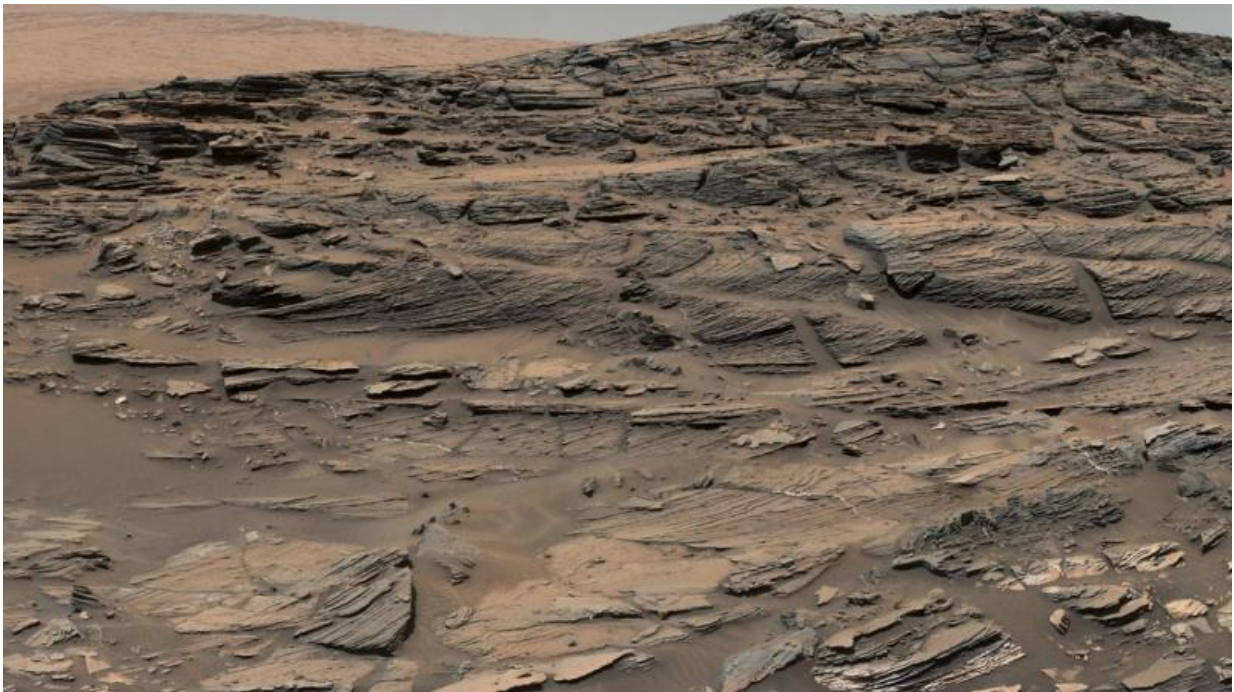


Mars panorama from Curiosity shows petrified sand dunes

September 12 2015



Large-scale crossbedding in the sandstone of this ridge on a lower slope of Mars' Mount Sharp is typical of windblown sand dunes that have petrified. Credit: NASA/JPL-Caltech/MSSS

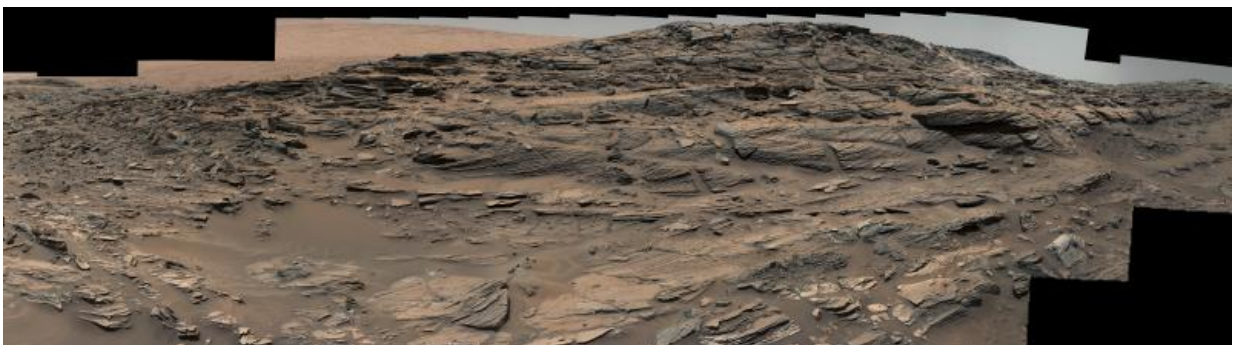
Some of the dark sandstone in an area being explored by NASA's Curiosity Mars rover shows texture and inclined bedding structures characteristic of deposits that formed as sand dunes, then were cemented into rock.

A panorama from Curiosity's Mast Camera (Mastcam) that includes a ridge made of this [sandstone](#) is [online](#).

This sandstone outcrop—part of a geological layer that Curiosity's science team calls the Stimson unit—has a structure called crossbedding on a large scale that the team has interpreted as deposits of sand dunes formed by wind. Similar-looking petrified [sand dunes](#) are common in the U.S. Southwest. Geometry and orientation of the crossbedding give information about the directions of the winds that produced the dunes.

The Stimson unit overlies a layer of mudstone that was deposited in a lake environment. Curiosity has been examining successively higher and younger layers of Mount Sharp, starting with the mudstone at the mountain's base, for evidence about changes in the area's ancient environment.

The dozens of individual Mastcam images combined into this panorama were taken on Aug. 27, 2015. Curiosity has driven about 103 yards (94 meters) in the subsequent two weeks, generally southward. Outcrops of the Stimson unit sandstone are still accessible to the rover, and researchers plan to use the rover to collect and analyze a drilled sample of Stimson unit sandstone this month.



Credit: NASA

Curiosity has been working on Mars since early August 2012. It reached the base of Mount Sharp last year after fruitfully investigating outcrops closer to its landing site and then trekking to the mountain.

Provided by Jet Propulsion Laboratory

Citation: Mars panorama from Curiosity shows petrified sand dunes (2015, September 12)
retrieved 27 April 2024 from
<https://phys.org/news/2015-09-mars-panorama-curiosity-petrified-sand.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>
--