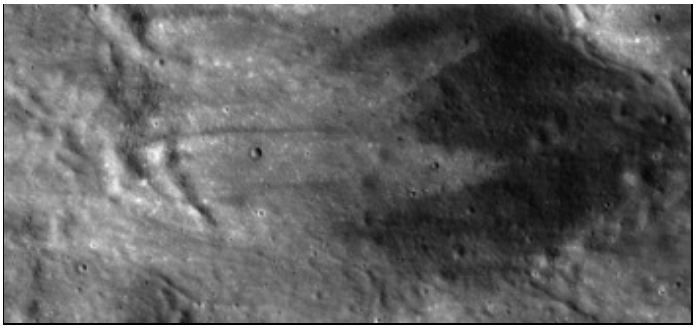

A variety of effects are still visible from this recent impact in Mare Nubium (14.60°S; 10.26°W). NAC frame M111660844L, illumination is from the east, north is up, image is ~1 km wide [NASA/GSFC/Arizona
State University].

The complex geologic process of impact cratering often results in a diverse medley of landforms and other surface features. The more nuanced of these are best observed in fresh craters because the subtlest attributes of impacts are those most easily removed by space weathering. Lassell D crater (2 km diameter) has been described as "one of the freshest craters on the Moon" (Muller et al., 1986). In the proximal (nearby) ejecta blanket we see a hummocky, streaked surface with dune-like forms, ribbon-shaped lobes, and an eye-catching admixture of low- and high-reflectance soils. Immediately following the high-energy of impact, advancing walls of ejecta hugged the ground and moved like a dry tsunami across this region.

The crenulations are the result of mechanical interactions of the moving debris with pre-existing topography. As the wave of rock and dust is arrested by this resistance,

August '13

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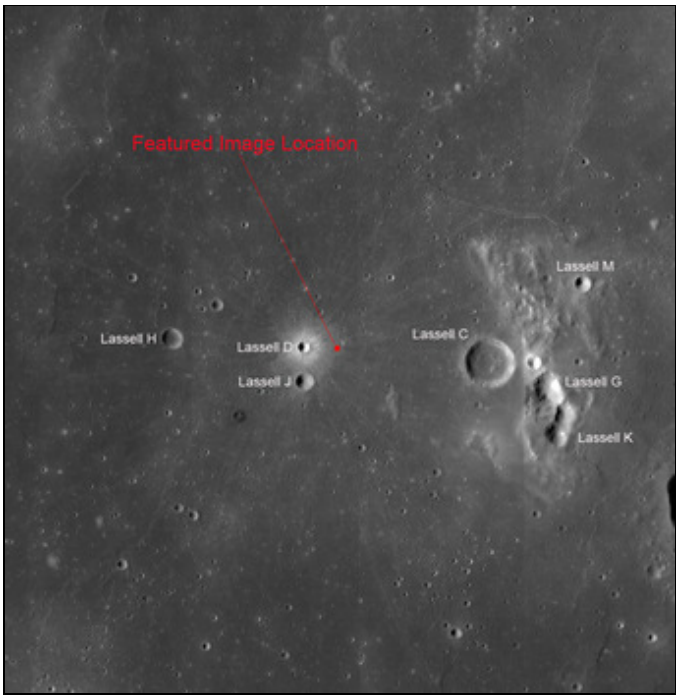
some portions of the debris continue flowing while others slow and stop moving. The result is a wavy landform, a cross-section of which might reveal how the lobes partially rode up and over each other, hence the descriptive term "imbricated deceleration lobes."



WAC mosaic image is ~118 km wide [NASA/GSFC/Arizona State University].

As regolith redevelops and matures over the tens of millions of years to come, these features will gradually diminish. Which features would disappear first and why? Examine the full NAC frame here. Additional examples of fresh impact features can be found in Kamarov, Icarus, and The Lavish Lobes of Necho R.

Posted by James Ashley in Featured Image at 10:00

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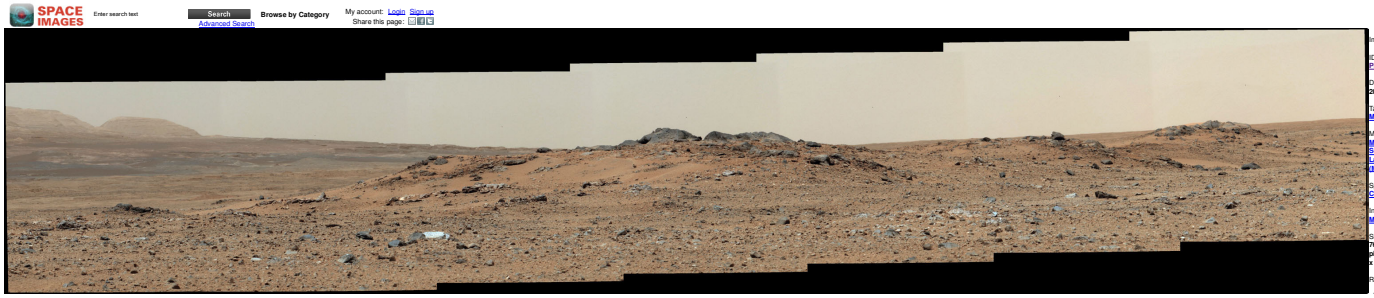


Curiosity Sol 343 Vista With 'Twin Cairns' on Route to Mount Sharp

This scene combines seven images from the telephoto-lens camera on the right side of the Mast Camera (Mastcam) instrument on NASA's Mars rover Curiosity. The component images were taken between 11:39 and 11:43 a.m., local solar time, on 343rd Martian day, or sol, of the rover's work on Mars (July 24, 2013). That was shortly before Curiosity's Sol 343 drive of 111 feet (33.7 meters). The rover had driven 205 feet (62.4 meters) on Sol 342 to arrive at the location providing this vista. The center of the scene is toward the southwest.

A rise topped by two gray rocks near the center of the scene is informally named "Twin Cairns Island." It is about 100 feet (30 meters) from Curiosity's position. The two gray rocks, combined, are about 10 feet (3 meters) wide, as seen from this angle.

This mosaic has been white-balanced to show what the scene would look like under Earth lighting conditions, which is helpful in distinguishing and recognizing materials in the rocks and soil.

Malin Space Science Systems, San Diego, built and operates Mastcam. NASA's Jet Propulsion Laboratory manages the Mars Science Laboratory mission and the mission's Curiosity rover for NASA's Science Mission Directorate in Washington. The rover was designed, developed and assembled at JPL, a division of the California Institute of Technology in Pasadena.

For more about NASA's Curiosity mission, visit http://www.jpl.nasa.gov/msl, http://www.nasa.gov/mars, and http://marsprogram.jpl.nasa.gov/msl.

Image details

ID#: PIA17083

Date added: 2013-08-02

Target: Mars

Mission: Mars Science Laboratory (MSL)

Spacecraft: Curiosity

Instruments: Mastcam

Size: 7631 x 1488 pixels (width x height)

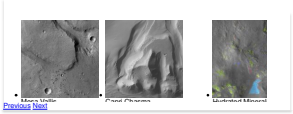
Rating: 1 2 3 4 5

Views: 2,441

Full-Res TIFF: PIA17083.tif (34.17 MB)

Full-Res JPG: PIA17083.jpg (1.3 MB)

Image credit: NASA/JPL-Caltech /Malin Space Science Systems



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