



**Figure 17.** MI mosaic of target Holman\_3, taken after RAT grinding on sol 178 when target was fully shadowed. Note unusual cauliflower-like texture within RAT hole.

Grains that can be resolved tend to be well sorted throughout exposed rock surfaces, imparting a granular appearance. Spherules embedded within laminar class targets average approximately 4 mm in diameter, with mean size decreasing along the southward traverse from Endurance toward Victoria Crater [Calvin *et al.*, 2008]. The spherules are nearly homogeneous and commonly lack any obvious internal structure (Figure 13) [Herkenhoff *et al.*, 2004b]. However, in rare cases, spherules display surficial banding parallel to the local lamination, similar to that seen in Eagle Crater [Squyres *et al.*, 2004b; McLennan *et al.*, 2005; Calvin *et al.*, 2008].

#### 4.1.1.3. Sedimentary Structure

[31] Laminae range from very narrow, continuous layers ~800  $\mu\text{m}$  thick (e.g., Figure 9) to wider, more broadly spaced layers 2 to 2.1 mm thick that display some undulation around lens-shaped features, such as those seen in the “Drammersfjord” (Figure 13) and “Kettlestone” (Figure 14) targets, to more discontinuous laminae, whose coherency breaks down to the point where individual layers can barely be traced (e.g., Wanganui, shown in Figure 10, and Wharenui).

[32] MI images of “Overgaard,” near Erebus Crater, show well-sorted grains in trough-shaped laminae (Figure 15).

Stereo MI images of this target were used to create a Digital Elevation Model (DEM) using the techniques described by Herkenhoff *et al.* [2006]. The DEM shows that the topography of the outcrop is not correlated with bedding, so that the observed sedimentary structures are primary, not the result of erosion [Grotzinger *et al.*, 2006].

#### 4.1.2. Nodular Rock Surfaces

[33] When viewed in preRAT MI images, nodular rock surfaces are very similar to laminar rock surfaces, with microscopically coarse and irregular bright texture standing high, and darker, finer grains lying in broader topographic lows. Darker spherules are scattered throughout and often stand higher than the surrounding rough texture. Some spherules are embedded within the rock surface, while others are found lying on the surface. In this class, however, no regular laminae can be seen, and postRAT images display a class-defining nodular texture within the RAT hole, as discussed in section 4.1.2.2. With the exception of “Kendall” (observed on sol 598), all nodular rocks occur in the lower wall of Endurance Crater.

##### 4.1.2.1. Lithology

[34] Nodular rocks have a granular appearance on undisturbed surfaces, with discontinuous positive relief that stands out from the broad lower regions that are mantled