



**Figure 36.** MI mosaic of Blueberries2, acquired on sol 221, merged with enhanced color from Pancam filters L2 (753 nm), L5 (535 nm), and L6 (482 nm). Arrow shows rock fragment that is spectrally different from the spherules as seen in 13-filter Pancam data. Shadow edge is visible at right edge of each frame (illumination from lower left); mosaic is about 5 cm across.

#### 4.3. Soil Observations and Interpretations

[81] The majority of soils observed by the MI between sols 91 and 900 represent the lag that dominates the plains of Meridiani Planum. These lag soils consist of a mixture of different grains, including basaltic sand, dust, millimeter-scale spherules interpreted as concretions released during outcrop erosion, spherule fragments, coated partly buried spherules, basalt fragments, sedimentary outcrop fragments,

and centimeter-size cobbles [Soderblom *et al.*, 2004; Weitz *et al.*, 2006]. Beneath the lag surface, the soils are dominated by basalt sands and dust. MI observations of the soils have been valuable for determining the sizes, shapes, and morphologies of the various grains that compose the soils. In particular, the grain morphology can be used to infer the nature of the source rock, mineralogy of the grain, and degree of abrasion during transport [e.g., Tucker, 1981]. In