**HIGHLIGHTS AND BREAKTHROUGHS**

**Clays are messy—also on Mars**

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**Abstract:** The Curiosity rover on Mars, landed in 2012, is capable of mineralogical investigation using X-ray diffraction, complementing the abundant infrared remote sensing data already available on clay minerals. We can, however, expect that the in situ X-ray diffraction information will convey a more complex picture than that inferred from infrared spectroscopy alone.

CheMin has landed.

**Keywords:** Clay, Curiosity rover, Mars, XRD