

Tuesday, March 19, 2013

[T202]

**SPECIAL SESSION: MARS SCIENCE LABORATORY III:  
THE ROCKNEST SAND DUNE  
8:30 a.m. Waterway Ballroom 4**

**Chairs: Kenneth Edgett  
Laurie Leshin**

- 8:30 a.m. Kocurek G. Bridges N. T. Edgett K. S. Goetz W. Lewis K. W. et al.  
[\*Rocknest Sand Shadow at the Curiosity Field Site: Morphology, Origin and Stabilization\*](#) [#1375]  
The morphology and wind regime of the Rocknest sand shadow are interpreted. This feature was the site of the first scooping activities by the MSL rover.
- 8:45 a.m. Edgett K. S. \* Yingst R. A. Minitti M. E. Goetz W. Kah L. C. et al.  
[\*Mars Hand Lens Imager \(MAHLI\) Efforts and Observations at the "Rocknest" Eolian Sand Shadow in Curiosity's Gale Crater Field Site\*](#) [#1201]  
Here's the scoop on MAHLI science observations and engineering support at the Rocknest sand shadow at Curiosity's Gale Crater, Mars, field site.
- 9:00 a.m. Goetz W. \* Madsen M. B. Edgett K. S. Meslin P.-Y. Blaney D. L. et al.  
[\*Morphological and Chemical Characteristics of Sediment in the Rocknest Eolian Sand Shadow, Gale Crater, Mars\*](#) [#1222]  
The Rocknest deposit shows (1) layering and (2) crust formation/cementation. LIBS data are consistent with late-stage mobilization of some cations (Li, Na, K).
- 9:15 a.m. Blake D. F. \* Bish D. L. Morris R. V. Downs R. T. Treiman A. H. et al.  
[\*Mineralogy and Elemental Composition of Wind Drift Soil at Rocknest, Gale Crater\*](#) [#1289]  
Mineralogical/elemental analyses of soil from an aeolian bedform are reported. Results are compared to soil measurements by MER-A, and martian basalts.
- 9:30 a.m. Bish D. L. \* Blake D. F. Vaniman D. T. Chipera S. J. Sarrazin P. C. et al.  
[\*First X-Ray Diffraction Results from Mars Science Laboratory: Mineralogy of Rocknest Aeolian Bedform at Gale Crater\*](#) [#1111]  
CheMin XRD data revealed plagioclase, forsteritic olivine, augite, and another pyroxene, with minor oxide, silicate, and sulfate phases in a Gale Crater dune.
- 9:45 a.m. Morrison S. M. \* Downs R. T. Blake D. F. Bish D. L. Ming D. W. et al.  
[\*Crystal-Chemical Analysis of Soil at Rocknest, Gale Crater\*](#) [#1831]  
This is a crystal-chemical analysis of data collected by the Mars Science Laboratory instrument, CheMin, on soil at Rocknest in Gale Crater.
- 10:00 a.m. Morris R. V. \* Ming D. W. Blake D. F. Vaniman D. T. Bish D. L. et al.  
[\*The Amorphous Component in Martian Basaltic Soil in Global Perspective from MSL and MER Missions\*](#) [#1653]  
CheMin, APXS and Mössbauer data from MSL and MER show the XRD amorphous component of global basaltic soil is ~36 wt% with high SiO<sub>2</sub>/Al<sub>2</sub>O<sub>3</sub> and Fe<sub>2</sub>O<sub>3</sub>/SiO<sub>2</sub> ratios.
- 10:15 a.m. Mahaffy P. R. \* Cabane M. Webster C. R. Archer P. D. Atreya S. K. et al.  
[\*Curiosity's Sample Analysis at Mars \(SAM\) Investigation: Overview of Results from the First 120 Sols on Mars\*](#) [#1395]  
Overview of results from Curiosity's Sample Analysis at Mars (SAM) investigation during the first 120 martian sols are summarized.

- 10:30 a.m. Archer P. D. Jr \* Sutter B. Ming D. W. McKay C. P. Navarro-González R. et al.  
[Possible Detection of Perchlorates by Evolved Gas Analysis of Rocknest Soils: Global Implications](#) [#2168]  
The SAM instrument on MSL has tentatively identified perchlorate, confirming Phoenix results. Implications of globally-distributed perchlorates are discussed.
- 10:45 a.m. Leshin L. A. Webster C. R. Mahaffy P. R. Flesch G. J. Christensen L. E. et al.  
[Hydrogen Isotopic Composition of Water in the Martian Atmosphere and Released from Rocknest Fines](#) [#2234]  
SAM TLS analysis of H isotopes in water from the atmosphere and Rocknest fines of Mars reveals D-enriched values comparable to telescopic and meteorite data.
- 11:00 a.m. Franz H. B. \* McAdam A. C. Stern J. C. Archer P. D. Jr. Sutter B. et al.  
[Carbon and Sulfur Isotopic Composition of Rocknest Soil as Determined with the Sample Analysis at Mars \(SAM\) Quadrupole Mass Spectrometer](#) [#2066]  
We present preliminary carbon and sulfur-isotope ratios determined with SAM's quadrupole mass spectrometer by evolved gas analysis of Rocknest soil.
- 11:15 a.m. Stern J. C. \* Steele A. Brunner A. E. Coll P. Eigenbrode J. L. et al.  
[Detection of Reduced Nitrogen Compounds at Rocknest Using the Sample Analysis at Mars \(SAM\) Instrument on the Mars Science Laboratory \(MSL\)](#) [#2790]  
Reduced nitrogen compounds were detected in Gale Crater solid samples by Sample Analysis at Mars (SAM) on MSL. Studies to elucidate their origins are underway.
- 11:30 a.m. Glavin D. P. \* Archer D. Brunner A. E. Buch A. Cabane M. et al.  
[Investigating the Origin of Chlorohydrocarbons Detected by the Sample Analysis at Mars \(SAM\) Instrument at Rocknest](#) [#1080]  
Several chlorohydrocarbons were detected by the SAM instrument after pyrolysis of the Rocknest sample. The origin of these organics will be discussed.