

Tuesday, March 20, 2018

[T308]

**POSTER SESSION I: MSL AND MER RESULTS:
GEOCHEMISTRY AND MINERALOGY
6:00 p.m. Town Center Exhibit Area**

Powell K. E. Arvidson R. E. He L. Politte D. V. O'Sullivan J. A. et al. **POSTER LOCATION #70**
[Retrieval of CRISM Single Scattering Albedos from 1–3.8 \$\mu\text{m}\$ Over the Curiosity Rover Traverse](#) [#2113]

We retrieve CRISM SSA spectra including both reflection and thermal emission and map the 3 μm H₂O band in scenes covering the MSL traverse.

Nikiforov S. Y. Mitrofanov I. G. Litvak M. L. Sanin A. S.
Lisov D. I. et al.

POSTER LOCATION #71

[Water Distribution in Martian Subsurface Based on the Passive Measurements of the DAN Instrument Onboard NASA/MSL](#) [#2127]

In our study we have used data from the DAN instrument onboard NASA/MSL. We present subsurface water continuous profile over the period of 1600 Sols.

Clegg S. M. Anderson R. B. Rapin W. Ehlmann B. L.
Anderson D. E. et al.

POSTER LOCATION #72

[ChemCam Sulfur Quantitative Analysis and Interpretation](#) [#2576]

A new LIBS SO₃ calibration model has been developed and applied to many disparate ChemCam Mars targets.

Knudson C. A. Perrett G. M. McAdam A. C. Campbell J. L.
Flannigan E. L. et al.

POSTER LOCATION #73

[Investigation of Mineral Phase Effects Caused by Sulfur Bearing Minerals in a Cumberland Simulant, Using Laboratory Equivalents of SAM, APXS, and CheMin Mars Science Laboratory Instruments](#) [#2316]

Analyses on MSL-like laboratory instruments can aid in constraining the impact of mineral phase effects on quantification of sulfur in MSL Curiosity samples.

Czarnecki S. Hardgrove C. Gabriel T. S. J. Litvak M. Mitrofanov I. et al. **POSTER LOCATION #74**
[New Analysis of Hydrogen Abundance in the Sheepbed Member of Yellowknife Bay Using In Situ Geochemical Data](#) [#2784]

New analysis of MSL DAN data using in situ geochemistry produced refined H abundances for the Sheepbed unit, which are consistent with surface desiccation.

Djachkova M. V. Mitrofanov I. G. Nikiforov S. Y. Litvak M. L.
Sanin A. B. et al.

POSTER LOCATION #75

[Correlation Between Subsurface Water from the Passive Measurements of the DAN Instrument \(NASA/MSL\) and Hydrated/Hydroxylated Minerals from CRISM \(NASA/MRO\) Data Products in Gale Crater](#) [#2379]

The cross analysis of DAN and CRISM data showed a correlation, meaning that DAN instrument feels the presence of hydrated minerals in the martian subsurface.

Nellessen M. A. Baker A. M. Newsom H. E. Jackson R. S.
Nachon M. et al.

POSTER LOCATION #76

[Distribution and Analysis of Calcium Sulfate-Cemented Sandstones Along the MSL Traverse, Gale Crater, Mars](#) [#2858]

The distribution of calcium-sulfate cement in martian sandstones along the MSL traverse has been determined with ChemCam LIBS analysis.

Rivera-Valentín E. G. Gough R. V. Chevrier V. F. Primm K. M.
Martínez G. M. et al.

POSTER LOCATION #77

[Constraining the Potential Liquid Water Environment at Gale Crater, Mars Throughout MSL's Traverse](#) [#2752]

Mars surface water / MSL has yet to find / One must look deeper.

Jackson R. S. Wiens R. C. Beegle L. W. Rampe E. B. Johnson J. R. et al. **POSTER LOCATION #78**
[ChemCam Investigation of the Last Four MSL Drill Sites in the Murray Formation, Gale Crater, Mars](#) [#2314]
 Four drill sites in the / Murray mudstone with little / Changes down their depth.

Anderson R. B. Gasda P. J. Frydenvang J. Wiens R. C. Maurice S. et al. **POSTER LOCATION #79**
[Investigation of Refinement of High Sodium and Potassium Calibrations for ChemCam](#) [#2181]
 We present work toward improving the accuracy of ChemCam Na₂O and K₂O results for high-alkali targets such as feldspars.

Laczniak D. L. Karunatillake S. Zhao Y. S. Hood D. R. Susko D. **POSTER LOCATION #80**
[Halogen Signatures in Gale, Gusev, and Meridiani Soils: Evidence for Surface-Atmosphere Interactions](#) [#1822]
 We evaluate if surface-atmosphere interactions, specifically volatilization, are altering the chemistry of Gale Crater, Gusev Crater, and Meridiani Planum soils.

McCullom T. M. Donaldson C. Hynek B. M. **POSTER LOCATION #81**
[Phosphorous was Immobile Throughout Formation of the Layered-Sulfate Deposits of the Burns Formation, Meridiani Planum](#) [#2250]
 Geochemical data indicate that phosphorous was immobile at all stages in the formation of layered deposits. Implications for origin scenarios will be explored.

Goetz W. Payre V. Wiens R. C. Clegg S. M. Gasnault O. et al. **POSTER LOCATION #82**
[Detection of Copper by the ChemCam Instrument Onboard the Curiosity Rover and Search for Copper-Hosting Minerals in Gale Crater, Mars](#) [#2679]
 At some places along Curiosity's traverse, Cu is enriched by a factor of 10–20 above background. We investigate possible causes and try to constrain Cu minerals.

David G. Meslin P.-Y. Dehouck E. Berger G. Cousin A. et al. **POSTER LOCATION #83**
[LIBS Characterization of Martian Soil Analogs: Implications for the ChemCam Analyses of Aeolian Sediments at Gale Crater](#) [#2234]
 In this study, we constrain the grains' size effect on the LIBS signal in soil, and the possibility of extracting information on the physical state of mixtures.

Johnson J. R. Bell J. F. III Bender S. Cloutis E. Ehlmann B. et al. **POSTER LOCATION #84**
[Bagnold Dune Campaign Phase II: Visible/Near-Infrared Reflectance Spectroscopy of Longitudinal Ripple Sands](#) [#1352]
 Phase II Bagnold Dune sands exhibited overall lower red/infrared ratios, higher ~530 nm band depths, and higher red/blue ratios than Phase I sands.

Stern J. C. Sutter B. Archer P. D. Franz H. B. McAdam A. C. et al. **POSTER LOCATION #85**
[Eolian Materials on Mars as a Record of Surface-Atmosphere Processes](#) [#2329]
 Gases evolved from eolian samples measured by the SAM instrument on Curiosity reflect both ancient and modern Mars atmosphere and surface processes.

Malespin C. A. Freissinet C. Glavin D. P. Mahaffy P. R. Millan M. et al. **POSTER LOCATION #86**
[The First Complete SAM Wet Chemistry Experiment on Mars](#) [#2351]
 The Sample Analysis at Mars suite completed its first wet chemistry experiment on Mars. The experiment shows the potential of this capability for future use.

Hogancamp J. V. Archer P. D. Morris R. V. Tu V. Lanza N. et al. **POSTER LOCATION #87**
[Detectability of Manganese-Bearing Phases by the Sample Analysis at Mars \(SAM\) Instrument On Board the Curiosity Rover in Gale Crater, Mars](#) [#2482]
 We analyzed Mn-bearing phases in a laboratory SAM-like instrument to test their detectability by SAM and what Mn-bearing phases may exist in Gale Crater, Mars.

Lamm S. N. Lanza N. L. Gasda P. J. Wiens R. C. Meslin P.-Y. et al. **POSTER LOCATION #88**
[Manganese Observations from ChemCam During Sols 1650–1750: Implications for a Changing Redox Environment](#) [#2903]

Manganese madness / Rover, rover everywhere / Fund science research.

Gasda P. J. Lanza N. L. Lamm S. N. L'Haridon J. Meslin P.-Y. et al. **POSTER LOCATION #89**
[Evidence of Redox Sensitive Elements Associated with Possible Shoreline Deposits in Gale Crater](#) [#2483]

High manganese rocks / Nearby possible shorelines / Mars shallow water?

Wellington D. F. Johnson J. R. Meslin P.-Y. Bell J. F. III **POSTER LOCATION #90**
[Iron Meteorite Candidates Within Gale Crater, Mars, from MSL/Mastcam Multispectral Observations](#) [#1832]

MSL/Mastcam multispectral data can be used to identify potential iron meteorites along the rover traverse, a list and discussion of which is presented here.

David G. Cousin A. Forni O. Meslin P.-Y. Dehouck E. et al. **POSTER LOCATION #91**
[Laboratory Analyses of Hematite-Rich Martian Analogues: Implications for ChemCam Data at Vera Rubin Ridge](#) [#2079]

We explore the sensitivity of the ChemCam instrument to iron contents added to a basaltic matrix, in order to understand the Fe variation in the Vera Rubin Ridge.

Navarro-González R. Coll P. Sutter B. Stern J. C. McKay C. P. et al. **POSTER LOCATION #92**
[Detection of Nitrites by the Sample Analysis at Mars \(SAM\) Instrument. Implications for the Oxidation State of the Atmosphere](#) [#1754]

The low temperature release of NO by SAM suggests the presence of nitrite or both nitrite/nitrate in the lowest stratigraphic column investigated by Curiosity .

Forni O. David G. Cousin A. Dehouck E. Mangold N. et al. **POSTER LOCATION #93**
[Phyllosilicate Identification Through ChemCam Elemental Correlation](#) [#1410]

Phyllosilicates in Gale Crater are identified through trace and major elements correlation in the ChemCam data. An increase of detection is found in Murray.

Stein T. C. Arvidson R. E. Rapin W. Wagstaff K. L. Delapp D. et al. **POSTER LOCATION #94**
[PDS Analyst's Notebook: Curiosity ChemCam RMI Mosaic and Mars Target Encyclopedia Integration and Interface Updates](#) [#1248]

Additions to PDS Analyst's Notebooks, including integration of Curiosity's ChemCam RMI mosaics and Mars Target Encyclopedia literature references.

Herkenhoff K. E. Gasnault O. Bender S. Le Mouelic S. Langevin Y. et al. **POSTER LOCATION #95**
[In-Flight Calibration of the MSL Remote Microscopic Imager](#) [#2155]

Calibration data acquired during the Mars Science Laboratory mission have been used to measure the in-flight performance of ChemCam's Remote Microscopic Imager.