

Thursday, March 22, 2018

[R632]

**POSTER SESSION II: AQUEOUS ALTERATION ON MARS III:  
FROM TERRESTRIAL ANALOGS AND MARTIAN METEORITES  
6:00 p.m. Town Center Exhibit Area**

Koziol A. M. **POSTER LOCATION #485**

[Further Analysis of Carbonates in Basanitic/Basaltic and Xenolithic Samples from Svalbard, Norway: An Earth Analog for Martian Meteorite Allan Hills 84001](#) [#1446]

Samples from Spitsbergen Norway containing zoned carbonates are compared to those in ALH 84001. Similarities are noted, implying a similarity in origin.

Piercy J. D. Bridges J. C. Hicks L. J. **POSTER LOCATION #486**

[Carbonates in Lafayette: Preparation for Mars 2020](#) [#2020]

Ca-siderite comprises up to 4% of Lafayette; TEM and XANES analyses inform us of its formation, dissolution, and use as an analogue for Mars 2020 landing sites.

Funk R. C. Satterwhite C. E. Righter K. Harrington R. **POSTER LOCATION #487**

[Antarctic Martian Meteorites at Johnson Space Center](#) [#1335]

The ANSMET program has collected 15 martian meteorites that are housed at JSC. The collection consists of shergottites, nakhlites, and one orthopyroxenite.

Miller M. A. Schwenzer S. P. Bridges J. C. Hicks L. J. Ott U. et al. **POSTER LOCATION #488**

[Mineral Surface and Fluid Chemistry in Nakhlite Analog Water-Rock Reactions](#) [#1688]

Experimental and geochemical modeling investigations were conducted to study mineral surface-fluid chemistry under circumneutral martian analog conditions.

Fu X. H. Zhou Q. Ling Z. C. Ni Y. H. Cao J. W. **POSTER LOCATION #489**

[Alteration Mineralogy in Martian Regolith Breccia Northwest Africa 7034 Using Raman Spectroscopy](#) [#1652]

We identified the alteration phases in NWA 7034 using Raman spectroscopy and SEM. The alteration assemblage are different from Nakhilites.

Berger J. A. Schmidt M. E. Gellert R. Campbell J. L. Flannigan E. L. et al. **POSTER LOCATION #490**

[PIXE Analysis of Hawaiian Volcanics: An Analogue for APXS in Gale Crater](#) [#2613]

We evaluate PIXE as an APXS analogue method and compare Gale Crater geochemical trends to those found in altered Hawaiian volcanics.

Svensson M. J. O. Fralick P. W. **POSTER LOCATION #491**

[The Badwater Gabbro as an Analogue for the Weathering of Martian Basalts](#) [#1372]

Whole rock geochemistry used as the main tool to assess the weathering in the Badwater Gabbro as an analogue site for the weathering of martian basalts.

Demirel C. Soreghan G. S. McCollom N. Elwood Madden A. S. Marra K. et al. **POSTER LOCATION #492**

[XRD Characterization of Antarctic Glacial Drift Deposits: Implications for Quantifying Weathering Products on Earth and Mars](#) [#1542]

We evaluated the effects of sample preparation and software tools on XRD-based mineral characterization using Antarctic glacial sediments.

Kaufman S. V. Mustard J. F. Head J. W. **POSTER LOCATION #493**

[Characterization of the Alteration of Antarctic Ash: The Products of a Cold and Icy Environment](#) [#2375]

Preliminary analogue work on Antarctic ash samples implies the possibility of hydrous surface alteration on early Mars under a cold and icy background climate.

Burton Z. F. M. Bishop J. L. Englert P. Koeberl C. Gibson E. K. **POSTER LOCATION #494**  
[Chemically Active Horizon in a Soil Pit from an Intermittent Pond Site in the Dry Valleys Region, Antarctica and Implications for Soil Processes on Mars](#) [#1086]

We examine spectra and chemistry of samples collected at an intermittent salt pond in Antarctica's Dry Valleys region as analogues for martian surface processes.

Morris R. V. Rampe E. B. Morrison S. M. Vaniman D. T. Downs R. T. et al. **POSTER LOCATION #495**  
[High Sanidine with a Hydrothermal Origin on Manua Kea Volcano \(Hawaii\) as a Process Analogue for High Sanidine Detected at Gale Crater \(Mars\) by CheMin XRD](#) [#2183]

High sanidine detected at Gale Crater (Mars) by CheMin XRD may be a product of hydrothermal, not igneous, activity.

Ruiz-Galende P. Torre-Fdez I. Arana G. Aramendia J. Gómez-Nubla L. et al. **POSTER LOCATION #496**  
[Geochemical Characterization of a Terrestrial Martian Analogue: The Submarine Volcano of Meñakoz \(Biscay, Spain\)](#) [#2842]

A terrestrial martian analogue is described in a submarine volcano located in Biscay (North of Spain) where phyllosilicates similar to those from Mars were found.

Ostwald A. M. Sutter B. Peretyazhko T. S. **POSTER LOCATION #497**  
[Open Hydrologic Assessment of Phyllosilicate Formation on Early Mars](#) [#2447]

This study subjects Mars-analogue basalt to acidic conditions in an open-hydrologic setting in an effort to prompt smectite formation.

Rudolph A. N. Craig P. I. Rampe E. B. Hogancamp J. V. **POSTER LOCATION #498**  
[Aqueous Alteration of Smectite in Acid-Sulfate Fluids: Implications for Clay Mineralogy at Gale Crater](#) [#3001]

We investigate the factors contributing to the collapse of nontronite to help elucidate the nature of the collapsed smectite identified in Gale Crater, Mars.

Andrejkovičová S. McAdam A. C. Stern J. C. Knudson C. A. Navarro-González R. et al. **POSTER LOCATION #499**  
[NH<sub>4</sub>-Smectite, a Potential Source of N Compounds \(NO\) in SAM Analyses](#) [#1998]

Laboratory EGA of NH<sub>4</sub>-smectite with Mg perchlorate suggests that interlayer NH<sub>4</sub><sup>+</sup> can contribute to m/z 30 (NO) observed in SAM EGA analyses of martian samples.

Mitchell J. L. Christensen P. R. **POSTER LOCATION #500**  
[The Mid- and Far-Infrared Emission Spectra of Chloride Minerals](#) [#1023]

Chloride salts on Mars / Have distinct spectral features / Let's go visit them!

Fox V. K. Ehlmann B. L. Kupper R. J. Nickerson R. D. Katz S. M. et al. **POSTER LOCATION #501**  
[Spectral and Optical Properties of Oxidized Fe-Mg-Al Smectites](#) [#1725]

Initial characterization of synthetic smectites as remote sensing standards.

Cutts E. M. Ehlmann B. L. Greenberger R. N. Beckett J. R. Stolper E. M. **POSTER LOCATION #502**  
[Visible and Shortwave Infrared Imaging Spectroscopy of Martian Meteorites](#) [#2749]

Microimaging spectroscopy of >60 martian meteorites reveals considerable diversity and allows comparison to remote sensing data.

Makarewicz J. S. Makarewicz H. D. Bishop J. L. **POSTER LOCATION #503**  
[Spectral Mixture Modeling Using Principle Component Analysis Applied to Nontronite-Ferrihydrite and Kaolinite-Montmorillonite Mixtures](#) [#1378]

A new mixture modeling technique using PCA and linear regressions was applied to nontronite-ferrihydrite and kaolinite-montmorillonite mixture datasets.