

**Thursday, July 27, 2017**  
**POSTER SESSION II: MARTIAN METEORITES**  
**5:30 p.m. Poster Area**

McCubbin F. M. Barnes J. J. Srinivasan P. Whitson E. S. Vander Kaaden K. E. Boyce J. W.  
[Experimental Study into the Stability of Whitlockite in Basaltic Magmas](#) [#6042]

We have run experiments to evaluate the magmatic stability of the mineral whitlockite in basaltic systems. Our experiments will address the distribution of water between melt apatite and merrillite-whitlockite solid solutions.

Kizovski T. V. Tait K. T.

[Detailed Mineralogy and Petrology of Intermediate Martian Lherzolithic Shergottite Northwest Africa 6342](#) [#6111]

NWA 6342 is a 35.5 g lherzolithic shergottite that was found in Algeria in 2010. The purpose of this work is to complete a detailed mineralogical, petrological, and geochemical analysis of NWA 6342 and compare it to other lherzolithic shergottites.

Rahib R. R. Udry A. Howarth G. H.

[Constraining Formation and Emplacement Processes of Poikilitic Shergottites Using Quantitative Textural Analyses](#) [#6063]

Quantitative textural analyses of poikilitic shergottites, a relatively rare and understudied group of martian meteorites, will provide insight about their formation and emplacement on Mars.

Mari N. Hallis L. J. Riches A. J. V. Lee M. R.

[Mg-Fe and P-Zoning in Tissint Olivine and Pyroxene: Implications for Martian Magma Chamber Dynamics](#) [#6012]

In this work we report major element core-to-rim evolution of pyroxene and P-zoning in olivine in Tissint in order to provide new insights into the dynamics of its parental magma chamber.

Mari N. Riches A. J. V. Hallis L. J. Lee M. R.

[Characteristics of Martian Crustal Materials and Implications for Magmatic Assimilation: Preliminary Re-Os Isotope and Highly Siderophile Element Abundance Data for Nakhilites and Tissint](#) [#6128]

This project, for the first time, aims to integrate nakhilite Os-isotope compositions and HSE abundance data with S-isotope compositions for sample fractions for which textural information is constrained prior to destructive analyses.

Hamilton V. E. Santos A. R.

[Comparison of Clasts in Martian Meteorite Northwest Africa 7034 to TES and Mini-TES Data](#) [#6266]

We are obtaining new infrared spectra of individual phases and clasts in the polymict breccia Northwest Africa (NWA) 7034 to develop a comprehensive spectral library that can be used for new analyses of infrared spectral data acquired at Mars.

MacArthur J. L. Bridges J. C. Hicks L. J. Branney M. J. Hansford G. M. Steer E. D.

[Thermal History of Northwest Africa 8114](#) [#6108]

Pyroxene clasts in NWA 8114 show oxidation and partial breakdown to iron oxides by the effects of shock; feldspar veins provide evidence of partial melting near basalt eutectic temperatures, after which it slowly cooled within the martian regolith.

Krzesinska A. M. Schofield P. F. Smith C. L. Salge T. Almeida N. V. Russell S. S.

[Volatile Metal-Bearing Phases Associated with Cumulus Pigeonite in Chassigny — Indications for the Petrogenesis](#) [#6238]

Some Chassigny fragments contain cumulus pigeonite. They host Pb,Hg,Sn,Au,Ag-sulfides. This supports the model of infiltration metasomatism during crystallization of Chassigny and shed light on the potential co-magmatism of Chassigny and nakhilites.

Krzesinska A. M. Schofield P. F. Geraki K. Michalski J. R. Smith C. L.  
[Multiple Fluid Alterations in the Martian Subsurface Recorded by Nakhrites](#) [#6236]

We present reconstruction of fluid flow(s) and alteration histories in the subsurface of Amazonian Mars as recorded by carbonates and sulphates in nakhrites Nakhla, Governador Valadares and Lafayette.

Englert P. Bishop J. L. Sutter B. Gibson E. K. Koeberl K.  
[Weathering and Salt Accumulation at Don Juan and Don Quixote Ponds in the Anatarctic Dry Valleys as an Analogue for Alteration at Mars](#) [#6173]

Increased abundances of soluble cations and anions were observed in sediments a few cm below the surface at Don Juan and Don Quixote Pond. This is attributed to increased chemical activity just below the surface and represents an analogue for Mars.