**Thursday, March 22, 2018** **[R635]**
**POSTER SESSION II: REDOX REACTIONS AND SALTS ON MARS: ANALOGS AND EXPERIMENTS**
**6:00 p.m. Town Center Exhibit Area**

Pan M. J. Ming D. W. Rampe E. B. Peretyazhko T. S. ***POSTER LOCATION #562***
*Reaction of Akaganeite with Mars-Relevant Anions* **[#2170]**
Characterization of Cl-containing akaganeite reacted with Mars-relevant anions (Br-, OH-, F-, $SO_4^{2-}$) to constrain environments where akaganeite is detected.

Zhao Y. Y. S. Chang R. ***POSTER LOCATION #563***
*Distinct Partitioning Behavior of Bromide and Chloride During Jarosite Precipitation — Implications for Cl/Br Fractionation and Jarosite Crystal Chemistry on Mars* **[#2760]**
Selective incorporation of Br- over Cl- by jarosite at 25 and 140°C may efficiently fractionate Cl/Br ratios and result in Br enrichment in jarosite solids.

Tu S. Parise J. B. Ehm L. Rogers A. D. Gregerson J. et al. ***POSTER LOCATION #564***
*Thermal and Structural Changes During Supercooling of Eutectic Perchlorate Solutions* **[#1090]**
We traced the supercooling of perchlorate brines via DSC and *in situ* high-energy XRD. The results show a phase change other than crystallization.

Dame R. H. Archer P. D. Jr. Hogancamp J. V. ***POSTER LOCATION #565***
*Effects of Martian Surface Materials on the Thermal Decomposition of Hydrogen Peroxide* **[#2522]**
Data from instruments on Mars were compared to lab data to determine the presence of hydrogen peroxide in the samples of the martian surface.

Ertem G. McKay C. P. ***POSTER LOCATION #566***
*Photo-Oxidation of Biomolecules by Iron (III) Oxide* **[#1518]**
Hematite, iron oxide, has been observed on martian surface by TES. We present our results on the photo-oxidation of biomolecules by hematite on martian surface.

Rivera-Banuchi V. B. Liu W. Yee N. Glotch T. D. Legett C. et al. ***POSTER LOCATION #567***
*Ultraviolet Photooxidation of $Fe^{2+}$ — Smectites and Implications for Mars* **[#2550]**
Partial oxidation by UV radiation is shown for ferrous smectites, providing another alteration pathway for the production of ferric smectites on Mars.

Bowman R. L. Lefticariu L. ***POSTER LOCATION #568***
*Characterization of Mixed-Mineral Systems Involving Clay and Iron Oxyhydroxide Minerals Under Acidic Conditions* **[#2862]**
Mixed mineral systems involving clay minerals and iron oxyhydroxides show complex coevolution during biogeochemical processes involving iron redox cycling.

Salvatore M. Edwards C. S. Tanner L. ***POSTER LOCATION #569***
*Ferricretes of the Bahariya Oasis, Western Desert, Egypt: A Key to Understanding Iron Oxide Formation Mechanisms on Mars* **[#1266]**
Studying the Fe-rich ferricrete units of the Bahariya Oasis, Egypt can help to better understand the range of possible Fe-oxide formation mechanisms on Mars.

Paramanick S. Rajesh V. J. Praveen M. N. Sajinkumar K. S. ***POSTER LOCATION #570***
*Spectral Characterization of Copiapite and Rozenite from Sulphide-Rich Banded Iron Formations in Wayanad, Kerala, India and Its Implications* **[#2299]**
We report spectral analyses of copiapite and rozenite from Banded Iron Formation in Wayanad in India; could be used as a chemical analogue for copiapite on Mars.

Costello L. J. Filiberto J. Potter-McIntyre S. L. Crandall J. R.
Schwenzer S. P. et al. ***POSTER LOCATION #571***
*Alteration and Oxidation of an Olivine Lamprophyre Dike from Southern Utah, USA: An Analog for Mars* **[#2352]**
Mafic intrusion / Some iron oxides and clay / Analog for Mars.

Shi E. B. Ling Z. C. Cao H. J. Liu C. Q. ***POSTER LOCATION #572***
*Synthesis and Spectral Characterization of a New Ferric Sulfate, Bilinite?* **[#2096]**
We firstly synthesized a new phase of hydrated ferric sulfate and conducted systematic XRD and spectroscopic characterizations in order to determine its phase.

Poitras J. T. Tait K. T. Cloutis E. A. Applin D. M. ***POSTER LOCATION #573***
*Mars Analogue Salts from Billion-Year-Old Water* **[#2678]**
Billion-year-old brine / Create Mars salt analogue / Not stable on Earth.

Huchmala R. M. Hanley J. Lindberg G. E. Horgan B. N. ***POSTER LOCATION #574***
*Understanding Chlorine Salt Spectra Through Computational Methods with Implications for Martian Geochemistry* **[#1306]**
We investigate the molecular vibrations of chlorine salts that cause IR spectral features and how they are affected by hydration states.

Donaldson C. McCollom T. M. ***POSTER LOCATION #575***
*Estimating the Chemical Composition of Alunite-Jarosite Group Minerals at MSL Drill Sites Using XRD Patterns from Synthetic Analogs* **[#1783]**
Synthetic alunite-jarosite group mineral solid solution results indicate that lower Mount Sharp jarosites are dominated by K and an Fe# of ~80.

Slank R. A. Farris H. N. Chevrier V. F. ***POSTER LOCATION #576***
*Experimental Simulation of Diurnal Water Vapor Cycles and Implications for Deliquescence-Driven Brine Formation at the Martian Surface* **[#2988]**
It is known that perchlorates can deliquesce at the surface of Mars; now looking at the range in which they do.

Wang A. Jacson A. Yan Y. C. Houghton J. ***POSTER LOCATION #577***
*(Per)Chlorate Formation Through Electrochemistry in Martian Atmosphere-Surface Interaction* **[#2578]**
We report Cl-phase transformations through electrostatic discharge occurred in martian dust events, with the emphasis on the factors that influence the (per)chlorates yields.

Primm K. M. Gough R. V. Rivera-Valentin E. G.
Martinez G. M. Tolbert M. A. ***POSTER LOCATION #578***
*Hydration and Dehydration of Mars-Relevant Chloride and Perchlorate Salts at Gale Crater* **[#1642]**
At Gale Crater, hydration (via humidity increase) is possible for calcium perchlorate and magnesium chloride; dehydration is observed only for calcium chloride.