

Tuesday, March 20, 2012

POSTER SESSION I: MARTIAN HYDRATED MINERALOGY AND MORPHOLOGY

6:00 p.m. Town Center Exhibit Area

Gross C. Wendt L. Combe J.-Ph. Jodlowski P. Marzo G. A. Roush T. L. McCord T.
Halbach P. Neukum G.

[*Investigating the Phyllosilicate Bearing Micoud Crater in the Northern Plains of Mars*](#) [#1795]

Micoud crater shows important phyllosilicate detections. Our objective is to identify several types of phyllosilicates and other hydrated minerals in order to test the hypothesis of impact-induced hydrothermalism versus excavation models.

Gross C. Sowe M. Wendt L. Bishop J. L. Fairén A. G.

[*Phyllosilicates in Bamberg Crater, Mars*](#) [#2356]

Hydrated silicates have been identified in several impact craters in the northern plains of Mars. Bamberg is a ~55-km-diameter impact crater located roughly 60 km north of the highlands/lowlands boundary north of Arabia Terra.

Wendt L. Bishop J. L. Neukum G.

[*Knob Fields in the Terra Cimmeria/Terra Sirenum Region of Mars: Stratigraphy, Mineralogy, Morphology*](#) [#2024]

This study of textural and mineralogical features of light-toned exposures at the knob fields around Ariadnes Colles produced a new stratigraphy that integrates past conflicting models of the region.

Bishop J. L. Tirsch D. Tornabene L. L. McGuire P. C. Ody A. Poulet F. Hash C. Mustard J. F.
Jaumann R. Murchie S. L.

[*Fe/Mg-Smectite, Carbonate and Al-Smectite in Ancient Aqueous Outcrops at Libya Montes and Their Association with Fluvial Features and Mafic Rocks*](#) [#2330]

Libya Montes hosts Noachian to Amazonian surface rocks featuring Fe/Mg-smectite, carbonate, and Al-smectite resulting from fluvial activity and chemical alteration. Stratigraphy of the aqueous and mafic minerals are shown using HiRISE and HRSC DTMs.

Crumpler L. S.

[*Mars Landing Sites in Phyllosilicate, Carbonate, and Ancient Wet Noachian Terrains of Bibya Montes*](#) [#1261]

This is about results from the Mars Landing site “critical data products” study effort.

Greenberger R. N. Mustard J. F. Kumar P. S. Dyar M. D. Speicher E. A. Skulte E. C.

[*Mineral Assemblages of Deccan Basalts and Al-Phyllosilicate Deposits on Mars: Implications for Leaching Processes on Mars*](#) [#1907]

On Earth, leaching basalt ultimately forms a kaolinite + Fe-oxide assemblage. We are using CRISM to look for an association of Fe-oxides and Al-phyllosilicates on Mars to test the leaching hypothesis for the formation of Al clays over Fe/Mg smectite.

Farrand W. H. Rice J. W. Jr.

[*South of Mawrth Vallis: A Potential Future Landing Site with Extensive Exposures of the Mawrth Vallis Stratigraphy*](#) [#1965]

An area south of the main Mawrth Vallis channel and outcrops, that also displays the diverse Mawrth Vallis stratigraphy, is described. This area lies south of 20N latitude and would allow a solar-powered rover to explore that stratigraphy.

Stein A. J. Bushick K. M. Oliver A. R.

[*Utilization of Sulfates and Hydroxide Minerals as a Determinant of the Acidity of Water on Mars*](#) [#1345]

Ancient Mars was host to liquid water, which, when tested, shows a negative correlation between the monohydrated sulfates and the hydroxides and helps conclude that the water on Mars trended toward acidity.

Murchie S. L. Johnson J. R. Seelos F. P.

[*MRO/CRISM Observations of Interior Layered Deposits of Tithonium Chasma, Mars*](#) [#1553]

We report first results from analysis of CRISM data covering western Tithonium Chasma, including a far-western outlier of the Valles Marineris interior layered deposits, whose location tests proposed genetic mechanisms and regional relations.

Weitz C. M. Williams R. M. E. Noe Dobrea E. Baldrige A.

[*Hydrated Minerals and Fluvial Features In and Around the Melas Chasma Basin*](#) [#2304]

Using a synergy of mineralogy derived from CRISM data and morphology interpreted from HiRISE and CTX images, we map geologic units within and around the Melas basin. Numerous hydrated minerals and fluvial features indicate a complex aqueous history.

Liu Y. Arvidson R. E. Li R. Wang W.

[*Hydrated Minerals Associated with Interior Layered Deposits Near the Southern Wall of Melas Chasma, Valles Marineris, Mars*](#) [#2572]

We identified a sequence of interior layered deposits over a portion of the southern wall and nearby floor of Melas Chasma using MRO CRISM data. Polyhydrated sulfates, monohydrated sulfates, and jarosite were identified in the ILDS.

Ackiss S. E. Wray J. J.

[*Hydrated Sulfates in the Southern High Latitudes of Mars*](#) [#2434]

CRISM data reveal new hydrated sulfates including gypsum in the southern high latitudes of Mars. Their distribution and spectral features suggest two formation processes: volcanism and/or minor melting of ice.

Amador E. S. Bandfield J. L.

[*Elevated Bulk Silica Compositions Associated with Olivine Rich Basalts in Nili Fossae, Mars*](#) [#2508]

The analysis of bulk rock composition in Nili Fossae has shown the association of high bulk silica surfaces with olivine-rich basalts. When compared to the phyllosilicate mineralogy in the area, a more complicated alteration history is presented.

Horgan B. Bell J. F. III

[*Widespread Weathered Glass on the Surface of Mars*](#) [#1622]

Near-infrared spectra of the northern plains of Mars are consistent with leached glass, potentially implying widespread acidic leaching and a history of explosive volcanism.