Thursday, March 4, 2010
POSTER SESSION II: MARS: THE SEDIMENTARY ROCK RECORD
7:00 p.m.  Town Center Exhibit Area

Pondrelli M.  Rossi A. P.  Ori G. G.  van Gasselt S.
Sedimentary Volcanoes in the Crommelin Crater Area, Mars [#1149]
We report the discovery of possible sedimentary volcanos located in many spots in the Crommelin crater area.

McGowan E. M.  McGill G. E.
The Utopia/Isidis Overlap: Possible Conduit for Mud Volcanism [#1070]
Both Utopia basin and Isidis basin are ancient overlapping multi-ringed impact basins. Where these two structures
overlap is a large population of pitted cones, which could be the result of mud volcanism facilitated by the
underlying structures.

Oehler D. Z.  Allen C. C.
Evidence for Basinwide Mud Volcanism in Acidalia Planitia, Mars [#1009]
40,000 mud volcano-like mounds are estimated to occur in southern Acidalia. They may reflect a major event in the
history of the lowlands and may provide a means of tapping samples from deep zones of potential astrobiological
significance.

Amador E. S.  Allen C. C.  Oehler D. Z.
Regional Mapping and Spectral Analysis of Mounds in Acidalia Planitia, Mars [#1037]
Regional mapping and spectral analysis of over 18,000 high albedo mounds across Acidalia Planitia, Mars has
provided us with clues to better understand the geologic processes that led to their formation. These mounds appear
to best resemble terrestrial mud volcanos.

Chojnacki M.  Moersch J.  Wray J. J.  Burr D. M.
The Stratigraphy, Composition and Thermophysical Properties of Endeavour Crater, Meridiani Planum, Mars, from
Orbital Remote Sensing [#2175]
Endeavour crater, Meridiani Planum, Mars, is the current destination for the Opportunity rover. We are performing
detailed mapping of Endeavour crater and report morphologic and spectral differences from locations previously
visited by the rover.

Clevy J. R.  Kattenhorn S. A.
Water Equivalent Hydrogen Abundance at Endeavour Crater: A Timely Example of Sub-Kilometer Epithermal
Neutron Resampling [#2482]
In this study we evaluate the results of resampling epithermal neutrons to create sub-kilometer hydrogen abundance
maps of the area around Opportunity’s next target, Endeavour Crater.

Hill K. S.  Bridges J. C.  Tragheim D. G.  Smith K. B.  Davies S. J.
CRISM Studies of Interior Layered Deposits in Arabia Terra, Mars [#2227]
CRISM studies of interior layered deposits (ILD) in Arabia Terra and elsewhere suggest localised concentrations
of hydrous minerals. This is consistent with deposition of hydrous minerals, e.g., from brines after ILD deposition.

Weitz C. M.  Lane M.  Noe Dobrea E.  Roach L.  Knudson A.
Distribution and Formation of Crystalline Gray Hematite in Eastern Valles Marineris [#2264]
We have mapped out the distribution of gray hematite in Capri Chasma, identified geologic units associated with the
hematite, and proposed modes of formation for hematite in Capri Chasma.

Weitz C. M.  Bishop J. L.  Roach L.  Milliken R. E.  Rodriguez J. A.
Mineralogy and Morphology of Light-toned Deposits in Noctis Labyrinthus [#2240]
We have analyzed 10 light-toned deposits in troughs of Noctis Labyrinthus that vary morphologically and
mineralogically throughout Noctis, suggesting that there may be multiple processes with variable amounts of water
that have emplaced and/or altered units in each trough.
Sefton-Nash E. Catling D. C.

**An Integrated Study of Light-toned Layered Outcrops (LLOs) in Iani Chaos** [#1957]

We describe the morphological, mineralogical and thermal characteristics of light-toned layered outcrops in Iani Chaos. Using an integrated, GIS-based approach, we study their relationship with chaotic terrain and discuss plausible formation methods.

Hughes A. C. G. Murchie S. L. Seelos F. P. Seelos K. D. Buczkowski D. L.
Burr D. M. CRISM Science Team

**CRISM and HiRISE Observations of Two New Phyllosilicate-bearing Fan Deposits on Mars** [#2248]

We report the first results of a systematic investigation of fan deposits on Mars. Two new fans have been identified to contain phyllosilicates and exhibit subhorizontal layering similar to that in Holden, Eberswalde, and Jezero craters.

Hughes C. G. Ramsey M. S.

**Super-Resolution of Martian Chloride Sites and the Associated Mineral Assemblages** [#2284]

This study investigates the applicability of the super-resolution technique to enhance the THEMIS thermal infrared data of a chloride deposit in Terra Syrenum using visible data. The result is a radiometrically-accurate TIR dataset at a spatial resolution of 36 m/pixel.


**Thermal Modeling for Playa and Unconsolidated Sediments** [#1142]

This abstract is on the topic of discovering the thermal properties of a playa. Being able to distinguish the thermal properties of unconsolidated sediment and playa will allow for scientists to be able to detect the presence of water.

Kelley E. M. Heyer K. M. Erb A. E.

**Thermal Modeling of Mixed Sediments** [#1122]

An examination of the thermal inertia of mixed sediments.

Griffes J. L. Grotzinger J. P. Milliken R. E.

**Working Towards a Classification Scheme for Sedimentary Rocks on Mars** [#2737]

A systematic study for the purpose of distinguishing various types of sedimentary rocks on Mars.

Tömänen T. Ivanov M. Raitala J. Korteniemi J. Kostama V.-P.

**End-Member Morphologies of Volcanic and Sedimentary Layered Rocks on Mars from the High-Resolution Images** [#1310]

The first results of a systematic photogeological study to look at the characteristic morphology of the layers formed by volcanic processes (especially emplacement of lava flows) and due to deposition and sedimentation on Mars.

Rodriguez J. A. P. Tanaka K. L. Berman D. C.

**Geochronologic Implications of Non-Random Distribution of Pedestal Craters in the Circum-Polar Plains of Gemini Scopuli, Mars** [#2387]

We describe a population of pedestal craters in the north polar plains of Mars, which may have formed as a result of the collapse of volatile-rich sedimentary deposits during the Late Hesperian.