

Tuesday, March 24, 2009
POSTER SESSION I: MARS: A VOLATILE-RICH PLANET
6:30 p.m. Town Center Exhibit Area

Withers A. C. Hirschmann M. M. Tenner T. J.

[*The Effect of Fe on OH Content of Olivine: Implications for Extraction of H₂O from the Martian Mantle*](#) [#1490]

Experimental determinations of the effect of Mg# on H₂O storage capacity in olivine + opx suggests that extraction of H₂O from the martian mantle is similar to that of a LREE. By analogy to K we infer that ~50% of martian H₂O remains in its mantle.

Wood J. Filiberto J. Treiman A. H.

[*The Effect of Fluorine on the Liquidus of an Adirondack-Class Martian Basalt*](#) [#1105]

As a preliminary study on the effect of F on phase equilibria, we have shown that F depresses the liquidus to a greater extent than water suggesting that fluorine is important during martian basalt genesis.

Brückner J. Dreibus G. Haubold R. Huisl W. Spettel B. Gellert R. Athena Science Team

[*Mobility of Phosphorus on the Martian Surface and in a Martian Meteorite*](#) [#1613]

The mobilization of P in an acidic environment was studied for meteorite Zagami by leaching experiments and for martian rocks by measurements of the APXS onboard the two Mars Exploration Rovers along their traverses.

Miura Y.

[*Formations of Martian Plagioclases and Flow Textures by Carbon Dioxides-rich Gas and Fluid Compared with Natural Rocks and Artificial Products on the Earth*](#) [#1090]

Carbon-bearing grains formed in basalts and syntheses are applied to carbon-fixing on martian plagioclases which are formed by impact pressures from carbon dioxides gas.

Nakamura N. Nyquist L. E. Reese Y. Shih C.-Y. Numata M. Fujitani T. Okano O.

[*Chlorine Isotopes as a Possible Tracer of Fluid/Bio-Activities on Mars and a Progress Report on Chlorine Isotope Analysis by TIMS*](#) [#1946]

We present a progress report on chlorine isotopic analysis using TIMS at NASA-JSC, and discuss the possible application of Cl isotopic analysis to martian meteorites in a search for fluid- and possibly biological activity on Mars.

Changela H. C. Bridges J. C.

[*TEM Study of Alteration Assemblages in the Nakhilites: Variation with Burial Depth on Mars*](#) [#2302]

TEM study of nakhilites shows a variation in secondary minerals between different meteorites. Lafayette from the greatest depth on Mars shows coarse crystalline Ca-Mn-Mg siderite and phyllosilicate whereas Y-000593 veins are amorphous silicate gel.

Greenwood J. P. Itoh S. Sakamoto N. Yurimoto H.

[*Hydrogen Isotope Measurements of Gypsum and Jarosite in Martian Meteorite Roberts Massif 04262: Antarctic and Houstonian Weathering.*](#) [#2528]

Ion microprobe measurements of hydrogen isotopes via spot mode and 2D ion imaging of gypsum and jarosite are best interpreted as last equilibrating with water in Houston and Antarctica, respectively.