Tuesday, March 16, 2004
POSTER SESSION I: MARTIAN METEORITES: PETROLOGY
7:00 p.m. Fitness Center

Chaklader J. Shearer C. K. Hörz F. Newsom H. E.
Volatile Behavior in Lunar and Terrestrial Basalts During Shock: Implications for Martian Magmas **[#1397]**
This study is about the effect of shock on light lithophile element distribution as applied to Mars.

Filiberto J. Nekvasil H. Lindsley D. H.
Problems with a Low-Pressure Tholeiitic Magmatic History for the Chassigny Dunite **[#1285]**
Low-pressure crystallization of olivine tholeiite cannot account for (i) the mineral assemblages, (ii) the alkali-rich rhyolite, (iii) the feldspars of the mesostasis, or the (iv) bulk compositions of melt inclusions within the Chassigny meteorite.

Monkawa A. Mikouchi T. Koizumi E. Chokai J. Miyamoto M.
Fast Cooling History of the Chassigny Martian Meteorite **[#1535]**
Pyroxene exsolution feature and chemical zoning of olivine in Chassigny suggest fast cooling history of this dunite meteorite. The final solidification of Chassigny seems to have occurred near the surface of the Mars.

Calvin C. Rutherford M.
Rehomogenized Interstitial and Inclusion Melts in Lherzolitic Shergottite ALH 77005: Petrologic Significance **[#1371]**
Rehomogenized melt inclusions in olivine and pyroxene and interstitial melt between crystals are used to make new observations about the petrogenesis of ALH 77005 and its relationship to other SNC meteorites.

Pitman K. M. Treiman A. H.
Compositional Controls on the Formation of Kaersutite Amphibole in Shergottite Meteorites **[#1177]**
Within two shergottites, we find that kaersutite amphiboles occur only in multiphase inclusions in pigeonite. This suggests that the occurrence of amphibole is controlled in part by the composition of its host phase.

Shirai N. Ebihara M.
Chemical Characteristics of an Olivine-Phyric Shergottite, Yamato 980459 **[#1511]**
We analyzed Yamato 980459 using several analytical methods so that the meteorite can be characterized based on the chemical composition. We test whether a mixing model is valid in explaining chemical composition of Y 980459.

Carlson R. W. Irving A. J.
Pb-Hf-Sr-Nd Isotopic Systematics and Age of Nakhlite NWA 998 **[#1442]**
An Sm-Nd crystallization age of 1.29 ± 0.05 Ga was obtained for nakhlite NWA 998, similar to ages for the other four dated nakhlites.

Schwenzer S. P. Herrmann S. Ott U.
Noble Gases in Two Samples of EETA 79001 (Lith. A) **[#1641]**
We measured noble gases in bulk and a pyroxene separate of EETA 79001, Lith. A. While a small contribution of Martian atmosphere can be seen, most of the noble gas content comes from indigenous Martian reservoirs, spallation and radioactive decay.

Agee C. B. Draper D. S.
Experimental Constraints on the Iron Content of the Martian Mantle **[#1880]**
FeO/MnO trends of basaltic shergottites, chondrites, and high pressure partial melts of L-chondrite suggest that the Martian mantle composition is similar to H-chondrites with Mg#~80. We are currently testing this hypothesis through high pressure experiments on the Farmville H4 chondrite.

Brandenburg J. E.
Mars as the Parent Body for the CI Carbonaceous Chondrites: New Data **[#1088]**
The oxygen isotopes of the CI and Mars meteorite materials, both for anhydrous and hydrous materials, are indistinguishable. In particular the Mars and CI hydrous materials both show elevated ^{17}O relative to the anhydrous materials. The simplest hypothesis is that both are Martian.