

Thursday, March 15, 2007
POSTER SESSION II: LUNAR SAMPLES AND EXPERIMENTS
6:30 p.m. Fitness Center

Rodriguez Durand S. Longhi J.

Pressure Calibration and the Mare Basalt Source Region [#2443]

New pressure calibrations according to [1] indicate that the multi-saturation pressures may be considerably higher than previously reported.

Liang Y. Thacker C. Peng Q. Hess P. C.

The Stability of Armalcolite and Ilmenite During Lunar Cumulate Mantle Overturn [#1076]

Ilmenite is thermodynamically unstable in the presence of opx and transforms into armalcolite at $P < 1.4$ GPa. Isolated regions of armalcolite-bearing harzburgite may be present in the lunar mantle and serve as a source for armalcolite assimilation.

Grove T. L. Krawczynski M. J. Medard E.

Experimental Investigation of the Depth of Origin for the Apollo 15 Red Glass: Evidence for a f_{O_2} Control on Olivine-Opx Multiple Saturation [#1236]

Experiments on the Apollo 15 red glass have shown the olivine-orthopyroxene multiple saturation point is sensitive to oxygen fugacity. Our work implies a shallower origin within the Moon for the Apollo 15 red glass than originally believed.

Neal C. R.

Mining the Literature for "New" Data: Expanding the Apollo 14 High-Alumina Basalt Isotope Database [#2398]

Existing Rb-Sr isotope data from A-14 high-alumina basalts are used to place constraints on the age and composition of the different basalt groups.

Schnare D. W. Taylor L. A. Norman M. D. Day J. M. D.

Single Source Origin for Apollo 15 Olivine- and Quartz-Normative Basalts [#1379]

We used mineral trace-element data from the Apollo 15 olivine- and quartz-normative mare basalts, combined with partition coefficients, to model their parental- and evolved-melt compositions, and to address the relationships between these suites.

Herzog G. F. Moynier F. Albarède F.

Isotopic and Elemental Abundances of Copper and Zinc In: Lunar Basalts, Glasses, and Soils, a Terrestrial Basalt, Pelé's Hairs, and Zagami [#1222]

Isotopic abundances of Zn and/or Cu in terrestrial basalts, Zagami, and lunar materials, which include micrometeorites, indicate that Zn and probably Cu in all of them come from a common set of reservoirs linkable by mass-dependent fractionation.

Treiman A. H.

Rhönite in Luna 24 Pyroxenes: First Find from the Moon, and Implications for Water in Planetary Magmas [#1244]

The mineral rhönite has been recognized for the first time in a lunar rock. Had water, F, or Cl been present, the amphibole kaersutite would probably have formed instead.

McCubbin F. M. Nekvasil H. Lindsley D. H.

Is There Evidence for Water in Lunar Magmatic Minerals? A Crystal Chemical Investigation [#1354]

Published data on volatile-bearing lunar minerals have been assessed through crystal chemical methods for the potential presence of lunar magmatic water. These data suggest the need for further analysis of water in volatile-bearing lunar minerals.

James O. B. Ash R. D. McDonough W. F. Puchtel I. S. Walker R. J.
*Fractionation and Volatile Redistribution of Siderophile Elements in Metal Grains from Lunar
Impact-Melt Breccia 76215* [#1094]

LA ICP-MS data for metal globules and a metal crystal in vesicles in melt breccia 76215 show that the globules (molten relicts of the impactor) fractionated as they crystallized, and the vapor in the vesicles was rich in Fe and volatile siderophiles.

Oshrin J. Neal C. R.
Crystal Size Distributions and Mare Basalts [#2365]

Crystal size distributions can be used to identify petrogenetic processes.