

Tuesday, March 14, 2006
POSTER SESSION I: LUNAR BASALTIC VOLCANISM
7:00 p.m. Fitness Center

Zeigler R. A. Korotev R. L. Irving A. J. Jolliff B. L. Kuehner S. M. Hupé A. C.
Petrography and Composition of Lunar Basaltic Meteorite NWA 3160 [#1804]

NWA 3160 is a dilithologic lunar meteorite consisting of basalt and basaltic fragmental breccia lithologies. NWA 3160 is paired with other basaltic lunar meteorites collectively known as NWA 2727, and may have a petrogenic relationship with NWA 773.

Bunch T. E. Wittke J. H. Korotev R. L. Irving A. J.

Lunar Meteorites NWA 2700, NWA 2727 and NWA 2977: Mare Basalt/Gabbro Breccias with Affinities to NWA 773 [#1375]
Three new lunar meteorites from Northwest Africa are either paired with or related to NWA 773 found in 2000.

Koizumi E. Mikouchi T. Chokai J. Miyamoto M.

Crystallization of Lunar Basaltic Meteorites Northwest Africa 032 and 479: Preservation of the Parent Melt Composition and Relationship to LAP 02205 [#1586]

The crystallization experiments with the bulk composition of NWA 032 suggest that the NWA bulk composition represents its parent melt composition, and the difference of cooling rate made the differences between NWA and LAP 02205.

Haloda J. Korotev R. L. Tycova P. Jakeš P. Gabzdyl P.

Lunar Meteorite Northeast Africa 003-A: A New Lunar Mare Basalt [#2269]

Northeast Africa 003-A is a 124 g new lunar meteorite (low-Ti mare basalt) found in northern Libya in the wadi Zam Zam area. NEA 003-A represents a previously unsampled lithology with no exact match to any lunar basaltic meteorite described so far.

Haloda J. Tycova P. Jakes P. Gabzdyl P. Kosler J.

Lunar Meteorite Northeast Africa 003-B: A New Lunar Mare Basaltic Breccia [#2311]

Northeast Africa 003-B is the brecciated lithology of a new, 124 g lunar meteorite Northeast Africa 003 found in northern Libya in the wadi Zam Zam area. The presence of low-Ti basaltic rocks in NEA 003 meteorite could be related to the progressive fractionation of single parent low-Ti melt.

Hill E. Day J. M. D. Davidson J. Taylor L. A.

Petrogenesis of Apollo 17 Mare Basalts — Revisited [#2067]

Our study of six Apollo 17 mare basalts reveal complex, shallow-level processes, superimposed on long-lived, relatively homogeneous mantle-derived magmatism.

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

Origin of Apollo 15 Olivine- and Quartz-normative Basalts [#2212]

This study addresses the relationship of Apollo 15 olivine- and quartz-normative basalts using whole-rock data, and an *in-situ* mineralogic approach (EMP + LA-ICP-MS), to understand the causes of chemical dispersion and the relationships between these two groups.

Day J. M. D. Nowell G. M. Norman M. D. Pearson D. G. Chertkoff D. G. Taylor L. A.

Evidence for Age-Progressive Melting of Increasingly Incompatible-Element-enriched Mantle Reservoirs on the Moon? [#2235]

There are age-progressive variations in incompatible-element and Sr-Nd-Hf isotope data for lunar basalts. These variations indicate an increased role for KREEP in lunar mantle sources with time.

Langenhorst F. Smyth J. R. Kroll H.

On the Nature of Guninier-Preston Zones in Meteoritic and Lunar Orthopyroxene [#2104]

The question of the structure of GP zones in orthopyroxene has been addressed by transmission electron microscopy. Electron diffraction data reveals that the GP zones are metrically orthorhombic but possess monoclinic symmetry.

Shearer C. K. Papike J. J. Karner J.

Pyroxene Europium Valence Oxybarometer. Effects of Pyroxene Composition, Melt Composition and Crystallization Kinetics [#1289]

The behavior of multivalent elements in magmatic systems reflects the fO_2 of the environment. Here, we evaluate the effect of pyroxene and melt composition, crystallization sequence, and crystallization kinetics on the behavior of Eu in natural basalts from similar, reducing environments (IW-1).

Neal C. R. Shearer C. K.

High-Ti Volcanic Glasses: Derivation from a Garnet-bearing Source Coupled with Assimilation of Late-Stage LMO Cumulates [#2086]

Compositions of volcanic glasses are modeled to investigate the presence of garnet in their source regions.

Nicholis M. G. Rutherford M. J.

Vapor/Melt Partitioning Behavior of S and Cl in a C-O Gas Mixture [#2061]

The partitioning of S and Cl between a CO-rich gas-phase and a mafic melt composition have been investigated. Results have been applied to both lunar fire-fountain and terrestrial volcanism.