

Thursday, March 26, 2009
POSTER SESSION II: METEORITIC SAMPLES OF THE MOON
6:30 p.m. Town Center Exhibit Area

Korotev R. L. Zeigler R. A. Irving A. J. Bunch T. E.

[Keeping up with the Lunar Meteorites — 2009](#) [#1137]

We report results of compositional analyses of 16 new lunar meteorite stones for which names have been approved since our report of last year and speculate about pairing relationships on the basis of composition and preliminary petrographic data.

Isaacson P. J. Liu Y. Patchen A. Pieters C. M. Taylor L. A.

[Integrated Analyses of Lunar Meteorites: Expanded Data for Lunar Ground Truth](#) [#2119]

Lunar meteorites are a valuable opportunity to expand our lunar sample library. We have conducted preliminary mineralogy/petrography/spectroscopy analyses needed to apply them as ground truth and to determine their geologic context with remote data.

Welten K. C. Owens T. L. DePaolo D. J.

[Thermal Ionization Mass Spectrometry Studies of Sm and Gd Isotopic Shifts in Lunar Meteorites Due to Neutron Capture: A Progress Report](#) [#2449]

We will present preliminary TIMS measurements of Sm and Gd isotopic shifts in lunar meteorites due to neutron-capture effects. These studies will provide more insight in the evolutionary history of meteorites on the lunar surface.

Carpenter P. K. Zeigler R. A. Jolliff B. L. Vicenzi E. P. Davis J. M. Donovan J. J.

[Advances in Electron-Probe Microanalysis and Compositional Mapping: Applications to Lunar Samples](#) [#2531]

Advances in instrumentation and analytical techniques using EPMA and XRF have been applied to the study of lunar samples. The analysis of multiphase sample volumes using defocused beam analysis presents a central problem to both microanalysis and the study of lunar samples.

Snape J. F. Joy K. H. Crawford I. A.

[A Trace-Element Investigation of Lunar Meteorite Northeast Africa 001](#) [#1539]

A trace-element investigation of NEA 001 (a feldspathic polymict breccia). Our results have revealed that several VLT basalt clasts in the sample have unusual REE profiles and positive Eu anomalies.

Foreman A. B. Korotev R. L. Zeigler R. A. Wittmann A. Kring D. A. Irving A. J. Kuehner S. M.

[Petrographic and Geochemical Analysis of Feldspathic Lunar Meteorite Shisr 161](#) [#2304]

We present petrographic and geochemical analyses of the lunar meteorite Shisr 161 — a feldspathic regolith breccia compositionally similar to the NWA 3163/4483/4881 granulites.

Takeda H. Karouji Y. Ogawa Y. Otsuki M. Yamaguchi A. Ohtake M. Arai T.

Matsunaga T. Haruyama J.

[Iron Contents of Plagioclases in Dhofar 307 Lunar Meteorite and Surface Materials of the Farside Large Basins](#) [#1565]

FeO contents of clear plagioclase crystals in Dhofar 307 lunar meteorite, have been determined in connection with spectral data of the Kaguya mission and propose a model of formation of such breccia in a large basin of the farside.

Liu Y. Zhang A. Thaisen K. G. Anand M. Taylor L. A.

[Mineralogy and Petrography of a Lunar Highland Breccia Meteorite, MIL 07006](#) [#2105]

Mineralogy and petrography of a new lunar feldspathic breccia, MIL 07006.

Rahilly K. E. Treiman A. H.

[Granulite Clasts of Intermediate Mg* in Lunar Meteorite ALHA 81005: Chemical Compositions and Origins](#) [#1168]

Many granulite clasts in lunar highland meteorites have Mg* (molar Mg/(Mg + Fe)) between those of ferroan anorthosite (FAN) and magnesian anorthositic granulite (MAG). Compositions of these clasts are inconsistent with simple mixing of MAG and FAN, but require multiple origins.

Fernandes V. A. Irving A. J. Kuehner S. M. Gellissen M. Korotev R. L. Bandfield J. L.

[Petrology, Bulk Composition, Ar-Ar Age and IR Emission Spectrum of Lunar Granulite Northwest Africa 4881](#) [#2009]

Petrology, bulk composition, ^{40}Ar - ^{39}Ar age and IR emission spectrum data of lunar granulite Northwest Africa 4881 will be presented and showing the combination of laboratory and remotely sensed data is an idea to search for meteorite provenance.

Joy K. H. Burgess R. Hinton R. Fernandes V. A. Crawford I. A. Kearsley A. T.

Irving A. J. EIMF Team

[U-Pb and Ar-Ar Chronology of Lunar Meteorite Northwest Africa 4472](#) [#1708]

We report Ar-Ar and U-Pb chronology studies of KREEP-rich lunar meteorite NWA 4472.

Liu D. Wan Y. Zhang Y. Dong C. Jolliff B. L. Zeigler R. A. Korotev R. L.

[Age of Zircons in the Impact-Melt Breccia in SaU 169 Lunar Meteorite: Beijing SHRIMP II Study](#) [#2499]

Age dating of zircon grains using SHRIMP methods yields an age of 3918 Ma for the mafic impact-melt breccia lithology in SaU 169, which is chemically and petrographically identical to a group of impact melt breccias from Apollo 12.

Nishiizumi K. Caffee M. W. Vogel N. Wieler R. Leclerc M. D. Jull A. J. T.

[Exposure History of Lunar Meteorite Northwest Africa 5000](#) [#1476]

Cosmogenic radionuclides and noble gases were measured in NWA 5000. After ~600 Myr residence in the lunar regolith, it was ejected from a depth of ~335 g/cm² on the Moon. The minimum transit time was 1.3 kyr with a short terrestrial age.