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

Korotev R. L.
New Geochemical Data for Some Poorly Characterized Lunar Meteorites **[#1404]**
New compositional data for lunar meteorites Dar al Gani 996, Dhofar stones 280, 910, 961, and 1084, and NWA stones 2200 and 3163 are presented.

Takeda H. Arai T. Yamaguchi A. Mikouchi T.
Important Lithologies of the Lunar Farside Crust: Coarse-grained Granulites or Magnesian Anorthosites **[#1572]**
Dhofar 489 is a possible sample from the farside crust of the Moon, and its major clast types are not granulitic breccias. Two magnesian anorthosite clasts and one coarse-crystalline granulite were recognized by mineralogical study of new PTSs.

Nishiizumi K. Hillegonds D. J. Welten K. C.
Exposure and Terrestrial Histories of Lunar Meteorites LAP 02205/02224/02226/02436, MET 01210, and PCA 02007 **[#2369]**
We measured the cosmogenic radionuclide concentrations in new lunar meteorites, LAP 02205/02224/02226/02436, MET 01210, and PCA 02007. All meteorites contain solar cosmic ray produced ^{26}Al indicating a small preatmospheric radius.

Irving A. J. Kuehner S. M. Korotev R. L. Rumble D. III Hupé G. M.
Mafic Granulitic Impactite Northwest Africa 3163: A Unique Meteorite from the Deep Lunar Crust **[#1365]**
This large lunar meteorite from Northwest Africa ia a fresh, recrystallized granulitic breccia similar to clasts within some Apollo highlands samples.

Karouji Y. Arai T. Ebihara M.
Chemical Composition of Another KREEP-rich Lunar Regolith Breccia Yamato 983885 **[#1919]**
We analyzed recently found lunar meteorite Yamato 983885, which contains various lithic clasts, which are associated with KREEP, such as Mg-rich rocks and KREEPy basalt. We propose its possible source region of this meteorite on the Moon.

Braden S. E. Robinson M. S.
Lunar Mineral Modal Abundances from Digital Petrographic Thin Sections **[#2237]**
We have developed a fast and accurate technique to derive mineral modal abundances from digital scans of lunar petrographic thin sections. From the mineral modal abundances we can estimate TiO_2 wt% to a typical accuracy of 1 wt% for samples with opaque grain sizes greater than ~60 µm.

Hudgins J. A. Spray J. G.
Lunar Impact-fluidized Dikes: Evidence from Apollo 17 Station 7, Taurus-Littrow Valley **[#1176]**
3–5 cm wide dikes intruding noritic breccia at the Apollo 17 station 7 boulder comprise angular mineral and lithic clasts. The dikes are not igneous. They were generated by vapour-fluidized comminuted material and lithified by condensing silicate vapours and/or by subsequent shock welding.

Cohen B. A. Symes S. J. Swindle T. D.
Petrography and Chemistry of Impact-Melt Clasts in Apollo 16 Breccias **[#1379]**
Impact-melt clasts and glass fragments in ancient Apollo 16 breccias represent samples of pre-Imbrium lunar impacts. The major-element composition of these samples spans a wide range, suggesting that these samples represent multiple impact events.

Levine J. Muller R. A. Renne P. R. Rohde R. A.
Potassium and Calcium in Lunar Impact Spherules **[#1192]**
We use argon isotopic data from lunar impact spherules to determine relative abudances and distributions of potassium and calcium. Our observations constrain models of spherule formation.

Edmunson J. Gaffney A. M. Borg L. E.
Disturbance of U-Pb Isotopic Systematics in Lunar Samples: Mare Basalt 10017 and Norite 78238 **[#1506]**
Interpretation of lunar U-Pb isotopic systematics must be made in the context of more robust isotopic systems such as Sm-Nd or Rb-Sr. There is no single U-Pb system isochron that reliably provides the crystallization age for all samples.

Puchtel I. S. Walker R. J. James O. B.
Further Study of ^{187}Os/^{188}Os and Highly Siderophile Element Systematics of Apollo 14 and 17 Impact Melt Rocks **[#1428]**
New ^{187}Os/^{188}Os and HSE data for lunar impact melt rocks indicate that 73215 and 73255 aphanites plot in the middle of the chondrite range, whereas 72395 poikilitic rocks and 14321 microbreccias plot beyond the highest end of the range for ordinary and enstatite chondrites.

Dikov Yu. P. Gerasimov M. V. Yakovlev O. I.
High-Temperature Reduction of Slightly Siderophile Elements (V, Cr, and Mn) in Impact Process **[#1087]**
Experiments show that high-temperature processing of silicates results in sufficient reduction of iron and slightly siderophile elements (V, Cr, and Mn) into metallic states.