

Tuesday, March 2, 2010
UREILITIC ASTEROIDS: INSIGHTS FROM ALMAHATA SITTA
1:30 p.m. Waterway Ballroom 1

Chairs: Jason Herrin
 Scott Sandford

- 1:30 p.m. Herrin J. S. * Ito M. Zolensky M. E. Mittlefehldt D. W. Jenniskens P. M. Shaddad M. H.
[*Thermal History and Fragmentation of Ureilitic Asteroids: Insights from the Almahata Sitta Fall*](#) [#1095]
 We detail the thermal history of recovered fragments of asteroid 2008 TC3 (the Almahata Sitta ureilite) and compare the size of fragments within TC3 to those initially dislodged from the ureilite parent body.
- 1:45 p.m. Welten K. C. * Meier M. M. M. Caffee M. W. Nishiizumi K. Wieler R. Jenniskens P. Shaddad M. H.
[*High Porosity and Cosmic-Ray Exposure Age of Asteroid 2008 TC3 Derived from Cosmogenic Nuclides*](#) [#2256]
 Cosmogenic radionuclides in the Almahata Sitta ureilite, combined with measured size of 28 m³, indicate that asteroid 2008 TC3 had a density of 1.5 g/cm³ and a porosity of 55%. Cosmogenic noble gas concentrations indicate a cosmic-ray exposure age of 15 Myr.
- 2:00 p.m. Mikouchi T. * Zolensky M. Takeda H. Hagiya K. Ohsumi K. Satake W. Kurihara T. Jenniskens P. Shaddad M. H.
[*Mineralogy of Pyroxene and Olivine in the Almahata Sitta Ureilite*](#) [#2344]
 Two Almahata Sitta samples (7 and 3-1) analyzed are two unique members of ureilites with possible genetical relationship on the same parent body. All low-Ca pyroxenes have a pigeonite crystal structure, suggesting the formation at high temperature.
- 2:15 p.m. Rumble D. * Zolensky M. E. Friedrich J. M. Jenniskens P. Shaddad M. H.
[*Oxygen Isotope Composition of Almahata Sitta*](#) [#1245]
 It is demonstrated that a single asteroidal body, asteroid 2008 TC3, contained clasts representative of all known ureilite monomict and polymict ureilites in their oxygen isotope compositions.
- 2:30 p.m. Qin L. * Rumble D. Alexander C. M. O'D. Carlson R. W. Jenniskens P. Shaddad M. H.
[*Chromium Isotopic Composition of Almahata Sitta*](#) [#1910]
 The $\epsilon^{54}\text{Cr}$ values of Almahata Sitta samples are similar to that of HEDs. This suggests that they are derived from a parent body that is different from that of known carbonaceous chondrites. No correlation was found between $\delta^{54}\text{Cr}$ and $\delta^{17}\text{O}$.
- 2:45 p.m. Sandford S. A. * Milam S. N. Nuevo M. Jenniskens P. Shaddad M. H.
[*Infrared Spectroscopy of Samples from Multiple Stones from the Almahata Sitta Meteorite*](#) [#1229]
 The infrared spectra of samples from 26 different stones from the Almahata Sitta meteorite strewn field will be presented.