Tuesday, March 14, 2006
IMPACT CRATERING: OBSERVATIONS
8:30 a.m. Amphitheater

Chairs: J. G. Spray
B. M. Simonson

8:30 a.m. Dulin S. A. * Elmore R. D.

Paleomagnetic Constraints on the Age of the Decaturville Impact Structure, Southwest Missouri [#1246]
A mixed breccia at the Decaturville impact structure in Missouri contains a post-depositional mid Permian magnetization which, along with stratigraphic data, constrains the timing of the impact to the Pennsylvanian-mid Permian.

8:45 a.m. Milam K. A. * Deane B. King P. L. Lee P. C. Hawkins M.

From the Inside of a Central Uplift: The View from Hawkins Impact Cave [#1211]
Hawkins Impact Cave is the only cave in the world known to have formed in the central uplift of a complex crater. The subterranean view it provides offers a unique, three-dimensional view into central uplift formation.

9:00 a.m. Misra S. * Bose T. Newsom H. E. Sengupta D.

Geochemistry of Impact Ejecta from Lonar Crater, India — More Clues to Crater Evolution [#2123]
The geochemistry of fines from between basalt blocks in the ejecta blanket of the Lonar crater provides only limited evidence for post-impact aqueous alteration, arguing against hydrothermal processes in the ejecta blanket on the crater rim.

9:15 a.m. Spray J. G. *

Ultrametamorphism of Impure Carbonates Beneath the Manicouagan Impact Melt Sheet: Evidence for Superheating [#2385]
Ultrametamorphism of impure carbonates by impact melt at Manicouagan has yielded refractory Ca-Mg alumino-silicates and in situ partial melts that attained >900°C. This indicates that the melt sheet cooled from >1800°C and was superheated.

9:30 a.m. Osinski G. R. * Bunch T. E. Wittke J.

Proximal Ejecta at Meteor Crater, Arizona: Discovery of Impact Melt-bearing Breccias [#1005]
Impact melt-bearing breccias have been discovered within the proximal ejecta blanket of Meteor Crater, Arizona, for the first time. They contain melt derived from a combination of the projectile and various sedimentary target rocks, including carbonates.

9:45 a.m. Plescia J. B. *

Kelly West Impact Structure, Australia, Gravity [#1259]
Gravity data for the Kelly West impact structure define a central positive anomaly over the central uplift with an inset low and an exterior annular low. A diameter of 6.6 km is estimated for the structure based on the gravity data.

10:00 a.m. Nelson M. J. * Newsom H. E.

Yaxcopoil-I Impact Melt Breccias: Silicate Melt Clasts Among Dolomite Melt and Implications for Deposition [#2081]
Microprobe and XRD results suggest Chicxulub Yax-1 melt breccia consists of silicate melt clasts with K-rich rims amongst quenched dolomite melt. A depositional model includes brecciation of silicate melt by seawater and infilling by dolomite melt.

10:15 a.m. Guillemette R. N. * Yancey T. E.

Microaccretionary and Accretionary Carbonate Spherules of the Chicxulub Impact Event from Brazos River, Texas, and Bass River, New Jersey [#1779]
Small accretionary carbonate spherules of low-Mg calcite and clay are common in deposits of the Chicxulub impact. These form as primary calcite in the vapor plume, indicating much carbonate was preserved as particles and not as carbon dioxide.
10:30 a.m. Harris R. S. * Schultz P. H.
Airesites: A New Class of Late Miocene Tektites from Argentina [#2272]
Two new splashform tektites have been discovered attached to 5.28 Ma impact glass collected from the vicinity of Bahia Blanca, Argentina. Their occurrence, composition, and implications are discussed.

10:45 a.m. Skála R. * Čada M.
A Layered Moldavite from the Cheb Basin [#1833]
A layered moldavite was found in the Cheb Basin. It displays a layering on a millimeter to sub-millimeter scale and a significant chemical heterogeneity. This moldavite may indicate an incomplete mixing of parent rocks like Muong Nong tektites.

11:00 a.m. Sheffer A. A. * Dyar M. D. Sklute E. C.
Lightning Strike Glasses as an Analog for Impact Glasses: $^{57}$Fe Mössbauer Spectroscopy of Fulgurites [#2009]
We present the results of microprobe and $^{57}$Fe Mössbauer spectroscopy studies on eight fulgurites and Trinitite and their country rocks. Six glasses have lower Fe$^{3+}$ or formed Fe metal. The chemistry of a lightning strike is similar to an impact.

11:15 a.m. Simonson B. M. * Sumner D. Y. Beukes N. J. Hassler S. Jones-Zimberlin S. Johnson S. Scally A. Gutzmer J.
Correlating Multiple Neoarchean-Paleoproterozoic Impact Spherule Layers Between South Africa and Western Australia [#1489]
Well-preserved early Precambrian successions on two continents each contain spherule layers from three large impacts. Although the layers occur in roughly coeval pairs, closer analysis suggests four impacts were involved.

11:30 a.m. Becker L. * Shukolyukov A. Macaissic C. Lugmair G. Poreda R.
ET Extraterrestrial Chromium at the Graphite Peak P/Tr Boundary and in the Bedout Impact Melt Breccia [#2321]
We present ET chromium isotopes as direct evidence of an impact event associated with sediments at the Permian-Triassic boundary at Graphite Peak Antarctica and in the Bedout impact melt breccia.