Wednesday, March 16, 2005
CHONDRITES
1:30 p.m. Salon C

Chairs: D. S. Lauretta
R. H. Jones

1:30 p.m. Bland P. A. * Rost D. Vicenzi E. P. Stadermann F. J. Floss C. Fries M. Steele A. Benedix G. K. Lee M. R. Watt L. E. Kearsley A. T.
Trace Element Carrier Phases in Primitive Chondrite Matrix: Implications for Volatile Element Fractionation in the Inner Solar System **[#1841]**
We are attempting to characterise the trace element carrier phases within Acfer 094 matrix using a combination of ToF-SIMS, NanoSIMS, Raman and EDS, in order to discriminate between models for volatile element depletion.

1:45 p.m. Wasson J. T. * Trigo-Rodriguez J. M. Rubin A. E.
Dark Mantles Around CM Chondrules are not Accretionary Rims **[#2314]**
Fine dark mantles around some CM chondrules consist of nebular materials but porosities are low, inconsistent with nebular formation. We suggest that the mantles resulted from asteroidal impact compaction that predated aqueous alteration.

2:00 p.m. Zega T. J. * Garvie L. A. J. Dódony I. Stroud R. M. Buseck P. R.
Polyhedral Serpentine Grains in CM Chondrites **[#2087]**
We expand on previous efforts to characterize serpentines in CM chondrites and report results on a polyhedral form.

2:15 p.m. Brearley A. J. * Chizmadia L. J.
On the Behavior of Phosphorus During the Aqueous Alteration of CM2 Carbonaceous Chondrites **[#2176]**
X-ray mapping of chondrules in CM2 chondrites Y791198, Mighei and ALH81002 shows that Ca and P, leached from chondrule mesostasis are precipitated as Ca-phosphate in fine-grained rims supporting parent body alteration.

2:30 p.m. Amelin Y. * Krot A. N.
Young Pb-Isotopic Ages of Chondrules in CB Carbonaceous Chondrites **[#1247]**
CB carbonaceous chondrites Gujba and Hammadah al Hamra 237 have Pb-isotopic ages of 4562.7 ± 0.5 Ma and 4562.8 ± 0.9 Ma, respectively.

2:45 p.m. Lauretta D. S. * Guan Y. Leshin L. A.
Hydrogen Abundances in Metal Grains from the Hammadah Al Hamra (HaH) 237 Metal-rich Chondrite: A Test of the Nebular-Formation Theory **[#1839]**
We have measured the abundance of H in metal grains from HaH 237. The results confirm a nebular origin for these grains and constrain the partial pressure of H_2 present during their formation.

3:00 p.m. Schoenbeck T. W. * Palme H. Huss G. R.
SIMS Analysis of Moderately Lithophile Elements in CR and CB Chondrite Metal—- Characteristic Properties of Pristine and Processed Metal **[#2130]**
We present SIMS analyses for moderately lithophile elements in HaH 27 (CB chondrite) and Acfer 209 (CR chondrite). The data provides distiguishing features between condensed metal and processed metal.

3:15 p.m. Burger P. V. * Brearley A. J.
Localized Chemical Redistribution During Aqueous Alteration in CR2 Carbonaceous Chondrites EET 87770 and EET 92105 **[#2288]**
Elemental exchange and chemical redistribution between chondrules and matrices is examined in CR2 carbonaceous chondrites EET 87770 and EET 92105. Results are used to place constraints on aqueous alteration reactions on meteorite parent bodies.

3:30 p.m. Abreu N. M. * Brearley A. J.
HRTEM and EFTEM Studies of Phyllosilicate-Organic Matter Associations in Matrix and Dark Inclusions in the EET92042 CR2 Carbonaceous Chondrite **[#1826]**
HRTEM and EFTEM have been used to characterize the associations of phyllosilicates and organic matter in fine-grained matrix and dark inclusions in the EET 92042 CR chondrite.

3:45 p.m. Jones R. H. * Guan Y. Leshin L. A. Larsen T. Sharp Z. D.
Oxygen Isotope Distribution in NWA 739, a CH Chondrite with Affinities to Acfer 182 **[#1813]**
We report the bulk oxygen isotope composition of NWA739, and SIMS oxygen isotope measurements on individual silicate grains. There appear to be two groups of silicates: one distributed along CCAM, and one distributed along the CR mixing line.

4:00 p.m. Goldstein J. I. * Jones R. H. Kotula P. G. Michael J. R.
Microstructure and Thermal History of Metal Particles in CH Chondrites **[#1391]**
This paper provides detailed microstructural and microchemical information at the nm to µm scale (SEM, EPMA, TEM, EBSD) for a select suite of metal particles in four CH chondrites, ALH 85085, PAT 91546, Acfer 214, NWA 739.

4:15 p.m. Weisberg M. K. * Kimura M. McCoy T. J. Lin Y.
Olivine and the Thermal History of the E Chondrite Parent Body **[#1420]**
The Cr content of olivine has potential as an indicator of petrologic subtype and for identifying the most primitive E chondrites. Of the five E chondrites studied so far, ALH85119, EET83322 and MAC88136 are less equilibrated than LEW87234 and Y691.

4:30 p.m. McCoy T. J. * Brown M. R. M. Nittler L. R. Rost D.
Metal-Sulfide-cemented Agglutinates: What's Really Happening with Sulfur on Asteroidal Surfaces? **[#1412]**
Metal-sulfide particles with included silicates in the dark portions of ordinary chondrite regolith breccias are possible asteroidal agglutinates formed by micrometeorite bombardment.