Wednesday, March 15, 2006

ALL KINDS OF ACHONDRITES
8:30 a.m.  Marina Plaza Ballroom

Chairs:  G. K. Benedix
         H. Downes

8:30 a.m.  Kuehner S. M. *  Irving A. J.  Bunch T. E.  Wittke J. H.  Hupé G. M.  Hupé A. C.
Coronas and Symplectites in Plutonic Angrite NWA 2999 and Implications for Mercury as the Angrite Parent Body [#1344]
Disequilibrium metamorphic textures in this new plutonic angrite imply decompression and cooling in the angrite parent body, which might be Mercury.

8:45 a.m.  Zartman R. E. *  Jagoutz E.  Bowring S. A.
Pb-Pb Dating of the D’Orbigny and Asuka 881371 Angrites and a Second Absolute Time Calibration of the Mn-Cr Chronometer [#1580]
Lead ages of D’Orbigny and Asuka 881371 pyroxenes are used for additional calibration of Mn-Cr chronometer.

9:00 a.m.  Benedix G. K. *  Lauretta D. S.
Thermodynamic Constraints on the Formation History of Acapulcoites [#2129]
We present thermodynamic properties (closure temperature and oxygen fugacity) of acapulcoites. The data indicate acapulcoites likely experienced some reduction during cooling.

9:15 a.m.  Herrin J. S. *  Mittlefehldt D. W.  Humayun M.
Thermal Constraints from Siderophile Trace Elements in Acapulcoite-Lodranite Metals [#2297]
Acapulcoite-lodranites experienced temperatures of thermal metamorphism relevant to the onset of metal segregation. Siderophiles in metals record temperature and extent of metallic melt extraction and movement of metals en masse.

9:30 a.m.  Rubin A. E. *
Shock Features in Acapulcoites and Lodranites: Implications for the Origin of Primitive Achondrites [#1090]
Many acapulcoites contain relict shock features; five contain relict chondrules. These rocks formed from CR-like chondrites by shock heating, reduction and annealing. Some rocks were later shocked again. Lodranites formed in a similar manner, but suffered more extensive heating than acapulcoites.

Substantial Lithologic Diversity on 4 Vesta: Evidence from the Petrology and Spectra of Antarctic Eucrites [#1796]
In this abstract we describe preliminary results of a combined spectral and petrologic study of the unbrecciated eucrites, concentrating solely on those samples recovered from Antarctica.

10:00 a.m.  Greenwood R. C. *  Franchi I. A.  Jambon A.
New Oxygen Isotope Evidence for the Origin of Mesosiderites and Main Group Pallasites [#1768]
High precision oxygen isotope analyses reveal that the silicate portion of mesosiderites are indistinguishable from the HEDs and suggest a common origin. However, the main group pallasites have a distinct signature, and therefore different source.

10:15 a.m.  Yamaguchi A. *  Okamoto C.  Ebihara M.
The Origin of FeNi-Metals in Eucrites and Implication for Impact History of the HED Parent Body [#1678]
We performed a geochemical and petrologic study of brecciated eucrites and anomalous eucrites (Dhofar 007 and EET92023) to understand impact history of the parent body. It seems that these eucrites have genetic relationships with mesosiderites.
We report the petrology and geochemistry of NWA 3368, a new non-cumulate, monomict eucrite breccia with a variety of clast sizes and a pink-tinted matrix. Analytical techniques include electron microprobe, INAA, and ICP-MS.

10:45 a.m. Srinivasan G. * Whitehouse M. J. Weber I. Yamaguchi A. Crystallization Ages of Zircons on Eucrite Parent Body from Hf-W Systematics [#2042]
Here we report the new $^{182}$Hf-$^{182}$W evolution systematics composition of several zircons from A881388 and A881467 eucrite and use this to construct relative crystallization ages and model Pb ages for these zircons.

11:00 a.m. Shukolyukov A. * Lugmair G. W. The Mn-Cr Isotope Systematics in the Ureilites Kenna and LEW 85440 [#1478]
The ureilite parent body is characterized by an anomalous $^{54}$Cr/$^{52}$Cr ratio that is deficient in $^{54}$Cr. Thus, its precursor material was different from the known carbonaceous chondrite classes. The Mn-Cr system in Kenna and LEW85440 closed late.

Olivine core compositions in polymict ureilites cover the entire range found in monomict ureilites and show a similar compositional distribution. Such similarity is unlikely to have arisen if monomict ureilites represent separate parent asteroids.

11:30 a.m. Goodrich C. A. * Van Orman J. Wilson L. Disequilibrium Fractional Melting on the Ureilite Parent Body [#1191]
REE patterns of ureilites are successfully modelled by disequilibrium fractional melting. Because melt extraction was extremely efficient, REE partitioning was diffusion-limited.