

Thursday, March 24, 2016

[R617]

## POSTER SESSION II: HOWARDITE-EUCRITE-DIOGENITE METEORITES

6:00 p.m. Town Center Exhibit Area

Turrin B. D. Lindsay F. N. Park J. Herzog G. F. Delaney J. S. et al. **POSTER LOCATION #241**  
[<sup>40</sup>Ar/<sup>39</sup>Ar Ages of Carbonaceous Xenoliths in HED Meteorites NWA 6475 and NWA 6695](#) [#1592]

CM inclusions in 2 HED meteorites are younger (Ar/Ar) than nearby host material, but older than most free-range CM chondrites. HED matrix may slow Ar loss.

Cartwright J. A. Hodges K. V. Wadhwa M. Mittlefehldt D. W. **POSTER LOCATION #242**  
[Dating Howardite Melt Clasts: Evidence for an Extended Vestan Bombardment?](#) [#2865]

Ages of melt clasts / Vesta took quite a beating / Different to Moon...?

Ono H. Takenouchi A. Mikouchi T. **POSTER LOCATION #243**  
[Silica Polymorphs in Cumulate Eucrites](#) [#1929]

We investigated silica minerals in cumulate eucrites, and discussed their formation conditions and inversion rate of tridymite considering cooling histories.

Ray D. Shukla A. D. Ghosh S. **POSTER LOCATION #244**  
[The Cumulate and Basaltic Eucrite: Comparative Geochemistry with Terrestrial MORB and Implications to Igneous History](#) [#1015]

The petrogenesis of basaltic eucrite is indeed perplexing. Partial melting or incomplete melting could be a more realistic process yield eucrite magma.

Basu Sarbadhikari A. Mahajan R. R. Sisodia M. S. **POSTER LOCATION #245**  
 Babu E. V. S. K. Vijaya Kumar T. et al.  
[Multiple Stages of Early Evolution of Heterogeneous Type-7 Piplia Kalan Eucrite](#) [#1841]

Heterogeneous texture in Piplia Kalan eucrite coupled with mineral chemistry and P-T-fO<sub>2</sub> condition indicates multiple stages of early evolutionary history.

Crossley S. D. Mayne R. G. Lunning N. G. **POSTER LOCATION #246**  
 McCoy T. J. Greenwood R. C. et al.  
[Stannern-Trend Eucrite Petrogenesis: An Assessment of Partial Melt Contamination Models via Experimental Petrology](#) [#2821]

Stannern-trend eucrites / Hopefully reproduced through / Melt experiments.

Kagami S. Yokoyama T. Usui T. **POSTER LOCATION #247**  
[<sup>147</sup>Sm-<sup>143</sup>Nd and <sup>146</sup>Sm-<sup>142</sup>Nd Systematics of Basaltic Eucrites](#) [#2235]

We report the <sup>147</sup>Sm-<sup>143</sup>Nd and <sup>146</sup>Sm-<sup>142</sup>Nd ages for bulk rocks of basaltic eucrites and compare the results with the ages obtained in previous studies.

Caves L. R. Hahn T. M. McSween H. Y. Taylor L. A. **POSTER LOCATION #248**  
[Northwest Africa 10452, an Unusual Basaltic Eucrite](#) [#2004]

This unbrecciated basaltic eucrite contains an unusually large amount of augite and two distinct spinel phases, indicating greater variability in HEDs.

Wu N. Farquhar J. Magalhaes N. Dottin J. III Labidi J. **POSTER LOCATION #249**  
[Multiple Sulfur Isotopic Analysis of Eucrites and Angrites](#) [#2344]

We report sulfur isotopic data for 7 eucrites and 4 Angrites. The data reveal small positive Δ<sup>33</sup>S relative to CDT, and subpermil variation of δ<sup>34</sup>S.

Hahn T. M. Jr. Lunning N. G. McSween H. Y. Bodnar R. J. Taylor L. A. **POSTER LOCATION #250**  
[Formation of a Shallow Magma Ocean on Vesta Supported by Mantle Harzburgite Residua in Howardites](#) [#1140]

Geochemical characteristics of harzburgites in howardites support an interpretation as mantle residua in a shallow magma ocean during planetary differentiation.

Carli C. Pratesi G. Capaccioni F. Moggi Cecchi V. **POSTER LOCATION #251**  
[VNIR Spectral Variability of Northwest Africa 6232 Olivine-Diogenite](#) [#1840]

We present spectral characteristics of olivine diogenite NWA 6232. A crossing from outside to inside an olivine grain was measured, analyzing how absorptions change.

Fraeman A. A. Ehlmann B. L. Northwood-Smith G. W. D. Liu Y. Wadhwa M. et al. **POSTER LOCATION #252**  
[Exploring the Mineralogical Diversity of HED Meteorites with Microimaging VSWIR Spectroscopy](#) [#2237]

We used VSWIR imaging spectroscopy to survey the spectral diversity of the howardite, eucrite, and diogenite meteorite suite at 80- $\mu\text{m}$ /pixel spatial scale.

Lorenz C. A. Brandstätter F. Starkey N. A. Franchi I. A. **POSTER LOCATION #253**  
[Secondary Alteration of a Pyroxenite from the Dhofar 1302 Howardite: A Possible Record of Water Metasomatism](#) [#1827]

The secondary alteration of the pyroxenite fragment from the Dho 1302 howardite could be a result of water metasomatism on the HED parent body.

Schneck U. G. Boyce J. W. Treiman A. Eiler J. E. Guan Y. et al. **POSTER LOCATION #254**  
[Testing the urKREEP-  \$\delta^{37}\text{Cl}\$  Hypothesis with Eucrites](#) [#2978]

Eucrites and the Moon / Have high  $\delta^{37}\text{Cl}$ ! / "Cool, right?" said the nerd.

Eckley S. A. McSween H. Y. Taylor L. A. Hahn T. M. **POSTER LOCATION #255**  
[Uncommon Diogenitic Troilite-Orthopyroxene Melt Texture: Two-Phase Symplectite Found in Diogenite Northwest Africa 10451](#) [#2030]

Troilite-pyroxene symplectites occur in howardites but are uncommon in diogenites. This meteorite documents their diogenitic source.

Irving A. J. Kuehner S. M. Wittke J. H. Tait K. T. **POSTER LOCATION #256**  
[Noritic Diogenites and Feldspathic Diogenites: Evolved Ancient Cumulates Potentially Related to Mesosiderites and Not to Any Eucrites](#) [#2264]

We describe further examples of plagioclase-bearing diogenites containing notably ferroan orthopyroxene, which may have affinities with mesosiderites.

Martin A. C. Philips M. S. McCarty C. B. Taylor L. A. **POSTER LOCATION #257**  
[Vestan Meteorite: Petrography and Geochemistry of a New Howardite Northwest Africa 10459](#) [#2028]

A new howardite, found in North West Africa, is presented here.

Liu Y. Chen Y. Guan Y. **POSTER LOCATION #258**  
[Volatiles in a Spherule and Impact Clasts in the Bununu Howardite](#) [#1280]

Volatiles in a spherule and impact clasts in the Bununu howardite.

Stephant A. Hervig R. L. Wadhwa M. **POSTER LOCATION #259**  
[Water in Nominally Anhydrous Crustal Minerals of Vesta](#) [#2436]

We present hydrogen isotopic and water content SIMS measurements in eucrite pyroxenes in order to identify and quantify the water in parent magmas of Vesta.