Cometary Chip 3

Track 1

Images

Aerogel Cell:
From unknown cell

Aerogel Chip:

Track and Grains:

Microtomed samples: none

Track History:
Chip 3 was found on the surface of the canister upon opening, and has not been tied to a specific cometary cell. The terminal grain from this track was removed by C. Snead, and was set onto a diamond window by K. Messenger. L. Keller attempted to measure an FTIR spectrum without success.

Track Characteristics:
Type: carrot with terminal grain
Length: ~300µm
Grain diameter ~3µm each

Allocation History

Results

Grain 1
No data

Grain 2
Bajt [IR spectroscopy]: One olivine peak in S1, one possible olivine peak in S2.

Rietmeijer [TEM]: (1) One grain is pure Mg.Fe; (Mg/(Mg+Fe) (mg) = 0.7. Mg,Fe silicates with ~1 wt% CaO and ~1 wt% MnO; mg = ~0.8 to 0.9. Mg.Fe-silicate with variable, 1-4 wt% Al_2O_3; mg = ~0.7. Probably amorphous, no evidence for crystalline material. FeS +/- Ni abundant in vesicular material. No CLEAN sulfide analysis. See ternary diagram of ONE sulfide grain mixed with silicate-rich material (Fe compositions of the sulfides should be corrected of the Fe from the silicates).

Stefan [TOF – SIMS]: Mapping – bulk data. Few element chondritic relative to Fe (Al, Cr, Mn,Co, Cu) other enriched (C, O, Na, S, Sc, Ti).

Mikouchi [TEM – FEG SEM]: Tiny Fe sulfides scattered. Lot of aerogel. Sulfides possibly formed during impact melt.

Stroud: Sees OPX (verified by ED). Ca-Al-bearing silicate nanotubes and Ca carbonates, which all appear to be contamination.

Click here to return to the *Stardust Catalog* Table of Contents