

# Cometary Cell C2046

## Images

**Aerogel Cell:** [C2046-01.jpg](#)  
[C2046\\_T1\\_20x.jpg](#)

**Cell History:** Cell C2046 was removed from the cometary grid on January 25, 2007 without incident. Cell transferred to White Sand remote storage facility as a posterity sample.

**Track Information:** The tile has one medium-sized track and four or five other smaller tracks.

## Feature Images

## Allocation History

## Log Entries

**Note:** All track / features (e.g., T1) numbers assigned during the Level 3 scanning are to be considered "**Temporary**" and in do not relate to the "Official" track number that is assigned when a given features is extracted (e.g., Keystoned) from a tile. Abbreviations: EH – Entrance Hole, TP – Terminal Particle, MTW – Maximum Track / Bulb Width, TL – Track Length.

**Level 2** examination of C2046 was conducted on February 8, 2006. Nothing unusual or out of the ordinary reported.

## Level 3

**February 5, 2007**

**T.H. See**

## C2046

Removed tile C2046 from cabinet and mounted in the Level 3 fixture in the Level 2 orientation of the tile. This one has several large tracks visible to the unaided eye, so orientation was simply. The exposed left portion of this tile is missing and not in the crucible and is believed to have been piece or fragments recovered from the initial opening of the Sample Canister on January 17, 2006.

Lighting was still in Top 7x / 20x configuration from finishing previous tile.

Began 7x imaging at ~ 9:30.

20x top imaging completed at 9:50.

Switched lighting configuration to light pipe for Depth Profiles and Track detail imaging.

Depth Profiles – Installed Ringlight Polarizing filter on end of scope.

Began Depth Profiles @ 10:00. Completed @ 10:30.

Converted system for Track documentation. Began Track documentation at ~ 10:35.

C2046-T1 – Type B/C Track. Located 5.1 x 8.9 mm from left end of tile, just inside the broke off area. This large feature may be what caused the large fragment on the left top end to break off. See image “C2046-MissingFragment.jpg” for low-magnification view of missing area with overview of two large features in this end of the tile. EH ~ 290  $\mu\text{m}$  in diameter. MBW = 1370  $\mu\text{m}$ . Although not visible in overall track image, there is one stylus coming out of the bottom of this large bulb. There appears to be a TP there, but the missing chunk of aerogel is interfering with the camera getting a clear path and view. I will most likely flip this tile around after completed the scan to get the large feature toward the back more clearly than I can from this side. Thus, at that time I will tray and image this track again from the other side so that the missing aerogel should not be an issue. Initial track length (TL) appears to be ~3600  $\mu\text{m}$ . Bulb length (BL) ~ 2250  $\mu\text{m}$ .

Backside Observations – Two nice styli now that track can be seen from reverse side. TP1 – Deepest stylus measures about 10 x 20 in size. MBW = 1390. BL = 2140  $\mu\text{m}$ . Cannot locate TP on Stylus to left in image, but this track “appears to be shorter than the other stylus. Longest Stylus is ~ 3637  $\mu\text{m}$  deep.

C2046-T2 – Long Type A track located at 13.6 x 19.6 mm from left end. Better images will be obtained from the back side after reversing tile. Only acquired one overall view from front. From the front, EH ~60, MBW ~ 400, BL ~ 2300, Top portion of Bulb ~ 625  $\mu\text{m}$ . Overall TL ~ 4800  $\mu\text{m}$ .

Backside Observations – TL = 4924. MBW = 415  $\mu\text{m}$ . Another excellent example of physical EH (~400  $\mu\text{m}$ ) differing from narrowest portion (~125  $\mu\text{m}$ ) of bulb entry area. Beautiful dark TP ~ 12  $\mu\text{m}$  in size.

C2046-T3 – Unusual, bore-hole looking track. Not of previously classified type as far as A-C. No Stylus out bottom. Simply, cylinder-shaped feature. No TP visible. EH ~ 12, MBW ~ 71, and TL ~ 360 230  $\mu\text{m}$ . Feature located right at the front edge of this tile, or zero Y in the Level 2 orientation. 15 x 2.6 mm.

C2046-T4 – Located 20.2 x 4.1 mm. Type A carrot. Two white looking TPs at terminus of track. TL ~ 1892, MBW ~ 145, Bulb Depth ~ 620, and EH ~ 33  $\mu\text{m}$ . Terminal particles of 10 & 12  $\mu\text{m}$  located at terminus. Larger at greatest depth ~ 50 to 60  $\mu\text{m}$  below the smaller of the two.

C2046-T5 – Type B, three or four styli track near rear side of tile. Located 29.2 x 20, essentially up against back surface or top edge in Level 2 orientation. Will get better detailed images after reversing tile. General overview from this normal Level 3 side.

Backside Observations – Very nice Type B track with four or five good styli, each with terminal Particle. Also clear and easy to see the difference of the aerogel hole (~200  $\mu\text{m}$ ) at the actual feature/tile surface and then the narrowest part of the track (EH = ~60  $\mu\text{m}$ ) at the top, which is considerably small. MBW = 225  $\mu\text{m}$ . Four styli 1175, 952, 883, & 877 in length. One clearly definable TP ~ 13  $\mu\text{m}$ .

C2046-T6 – Located on right end of tile at 38.8 6.2 mm. Image partially obscured by missing tile fragments distorting the path to the camera. Will try to image again after reversing tile. This

feature still could not be imaged from the back side. In this orientation, the end of the Level 3 fixture was blocking the camera path. May try and indirect top angle view after imaging other features from backside. TP appears to be ~ 10  $\mu\text{m}$ .