

Stardust Sample Nomenclature

Sample nomenclature for individual aerogel cells and foils relates to cell number (# 1-132) as illustrated below where the tray is mounted in its standard orientation on the Primary Scanning System (PSS). The interface with the deployment arm during cometary exposure is at the top in this orientation. The top is (arbitrarily) assigned N, the bottom S, the left side W, and the right side E. This becomes significant when referring to the locations of various foils.

The prefix **C2** for any Stardust sample summarily relates to **C**ometary Tray **2** (Trays 1 and 3 were relegated as a flight–spare prior to launch).

Similarly the prefix **I1** for any Stardust sample summarily relates to **I**nterstellar Tray **1** (Trays 2 and 3 were relegated as a flight–spare prior to launch). However, we are not allocating samples from the flight Interstellar tray at this time.

All Level 2 and 3 imagery of individual aerogel tiles and foils consistently utilize the lower-left hand corner as the origin ($X=0$ and $Y=0$). Level 3 photography (top views) adopt this orientation as well. All side views of individual cells mandated that the cell be rotated by 90° around the X axis. As a result, the 0/0 point is moved to the upper left-hand corner of the tile/images. The Y axis on the PSS in this orientation becomes a measure of the horizontal or penetration depth from the tile's surface, while the Z-value on the PSS corresponds to the original Y-value in the top-view situation.

Nomenclature for impact features in aerogel cells

A sample name begins with the name of the parent aerogel cell, for example C2126, unless the sample derives from a loose aerogel chip with unknown parentage. In the case of loose chips the sample name begins the chip name, for example “FC4”.

The second part of the sample name is the number of the separated aerogel piece that contains the captured particle. The parent aerogel cell “0”, and all subsequent pieces are numbered sequentially beginning with 1.

The third part of a sample number is the “track” number. Impact features (with captured particle residues) are called “tracks”. Tracks are numbered sequentially according to their removal from aerogel cells and/or first sampling.

Following (and meteorite) sample nomenclature, each individual track constitutes the parent of subsequent sub-samples, separated with a comma from its parent. For example, individual grains extracted from a given track are labeled “Track X, 1”, etc. and further subdividing of specific grains (*e.g.*, into potted butts, TEM grids or other sub-splits) would become “Track X,1,1”, etc.

So, for example the number “C2022,1,57,2,3” would be TEM grid “3”, made from grain “2”, from track “57”, which was located in aerogel piece “1” removed from aerogel cell “C2022”.

Nomenclature for aluminum foils

All aerogel tiles share four Al foils with their neighbors, except those tiles located in cells along the tray's periphery. By convention and definition, the foils were identified as N and W (*i.e.*, the foils at the top and to the left of each cell were assigned the specific cell number and the prefix N or W, respectively, were used.

In utilizing such a convention, on certain peripheral cells possess S and E foils since there was no cell on the opposite side from which to assign the N or W value from. Each foil draped an individual tray rib in a continuous fashion (*i.e.*, both sides and the exposed top of the rib). The exposed top surface was cut and isolated during foil harvesting and assigned an appropriate sample number (*i.e.*, C2xxx, N1; the wall section facing the parent cell was assigned ,0, while the wall section facing the neighboring cell was assigned ,3 (after harvesting of corresponding cell).

Because specific track morphology and residue content have no obvious relationship to specific host tile and tray location, the decision was made to not include track location or cell number or coordinates in the identifier. As a consequence each sampled track is assigned a number that simply relates to the chronological sequence in which the individual track was isolated or harvested, regardless of which cell it may have originated from within. The original location or cell is recorded in the Curatorial database and is not lost, but is simply is not part of the identifier.

XYZ

Aerogel and other samples except foils

X = C – Cometary; I – Interstellar

E – Extraction (never in a tray)

F – Fragment (Origin unidentifiable; loose piece in spacecraft or on the ground).

M – Miscellaneous (dirt, water, air samples, etc.)

H – Hardware (spacecraft hardware)

W – Witness Materials

Y = Tray Number (1, 2, or 3)

Z = Cell Number (001 - 132)

Examples:

C2009

C2102

C2131

Flight Trays:

C2 – Cometary Flight Tray

I1 – Interstellar Flight Tray

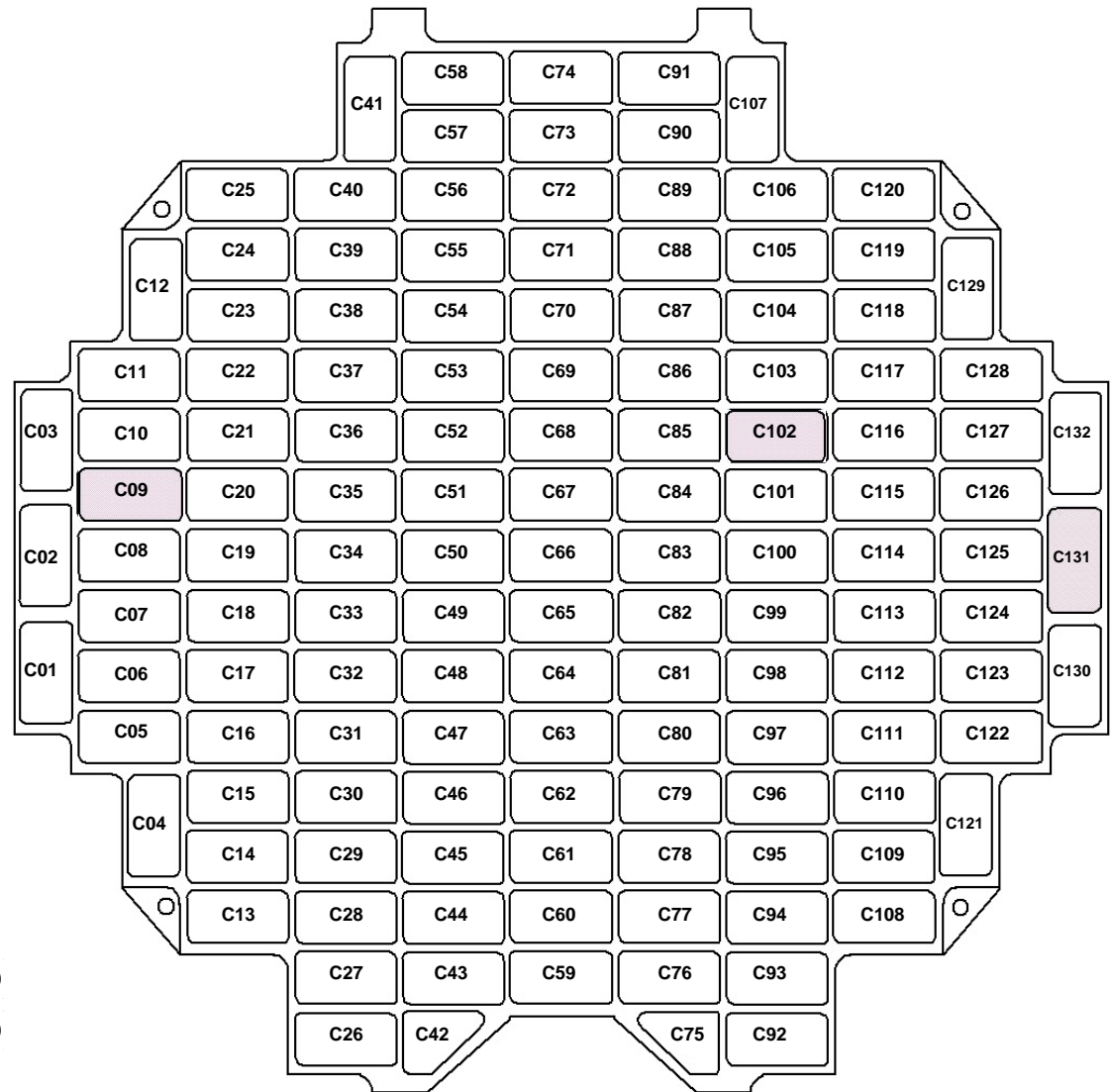
Non-Flight Trays

C1 – Cometary Tray (Backup

C3 – Cometary Tray (Backup

I2 – Interstellar Tray (Backup)

13 – Interstellar Tray (Backup)



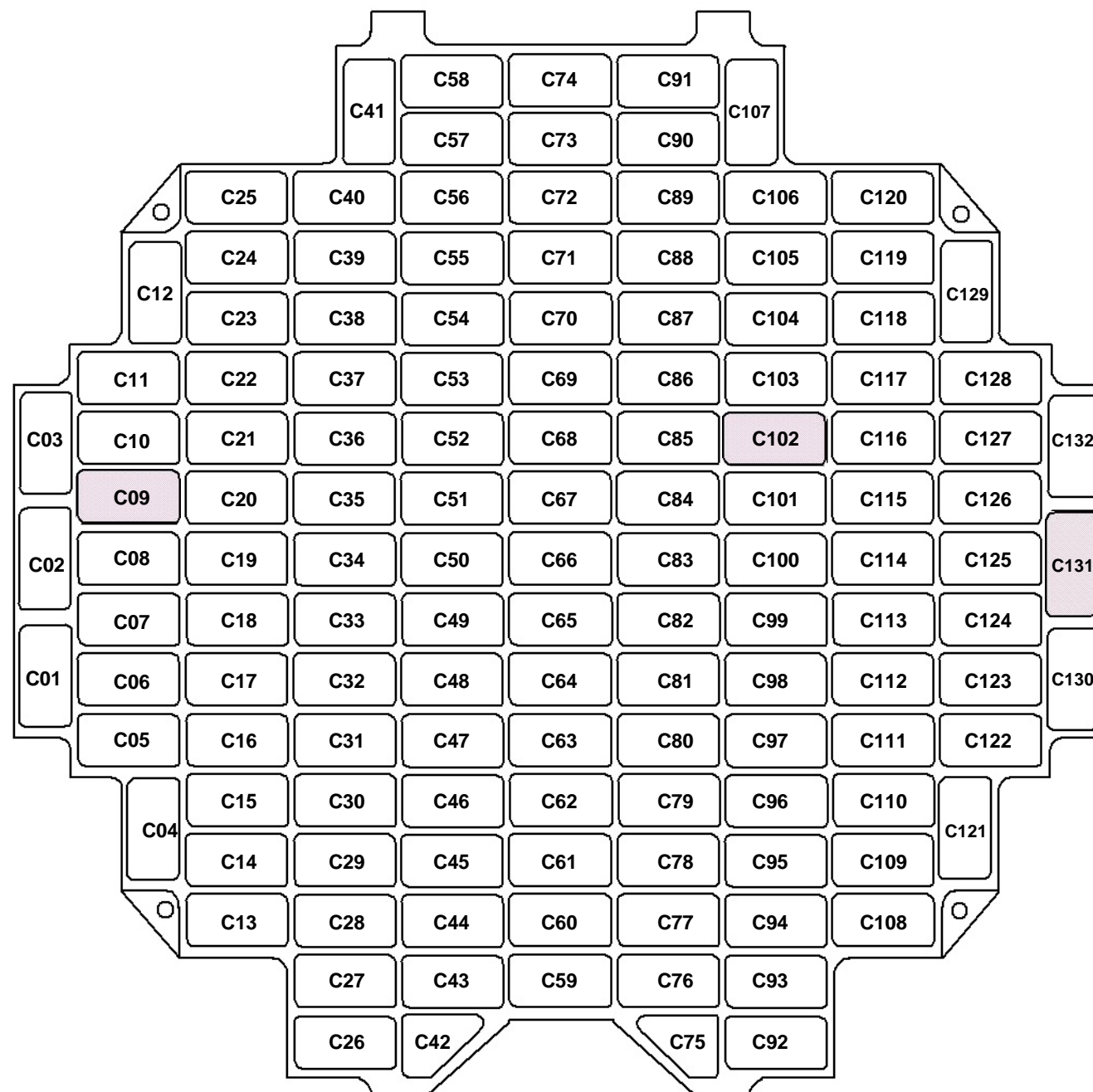
Aerogel Numbering:

Tray# + Cell #

C2009

C2102

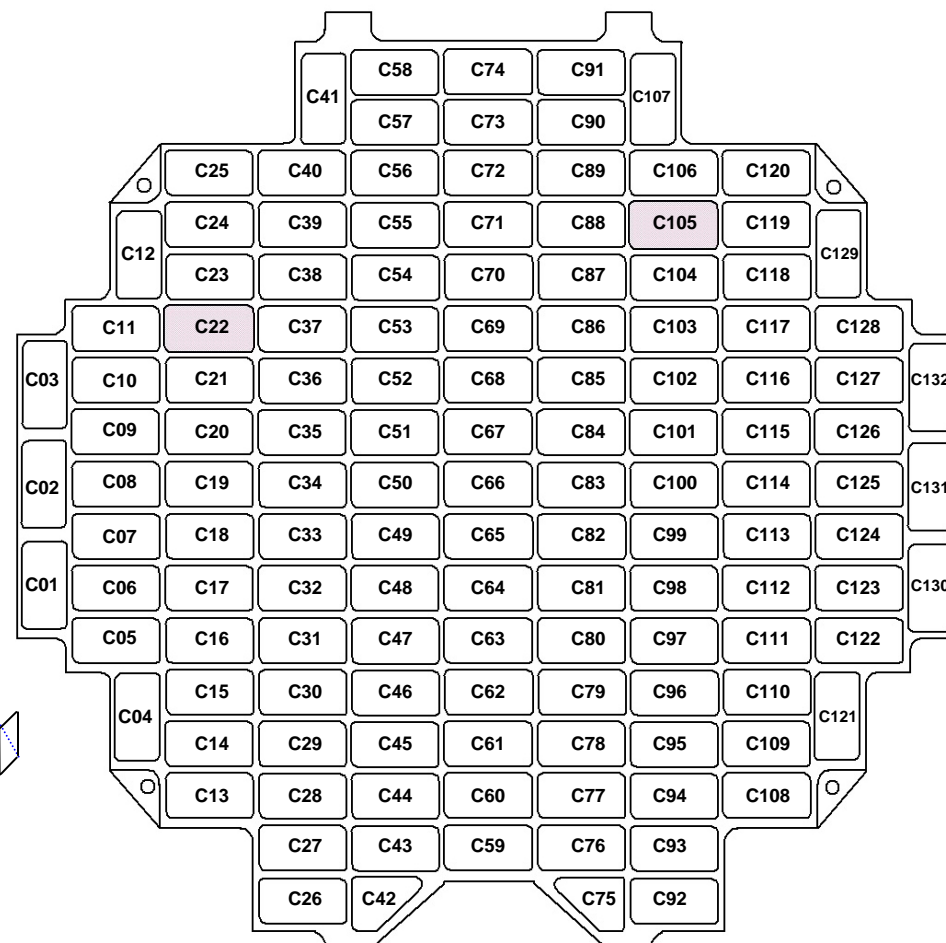
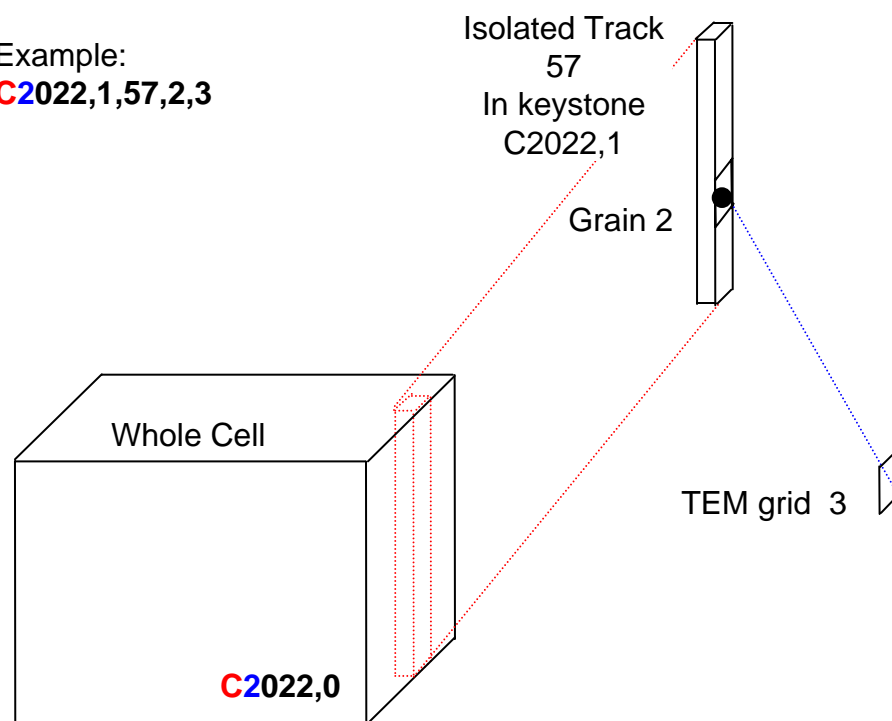
C2131



Stardust PE Sample Nomenclature

Sub-sample convention

Example:
C2022,1,57,2,3



Stardust PE Sample Nomenclature

Aluminum Foils

XYZ

X = C – Cometary; I – Interstellar

Y = Tray Number (1, 2, or 3)

Z = Cell Number (001 - 132)

A = N, E, S, W

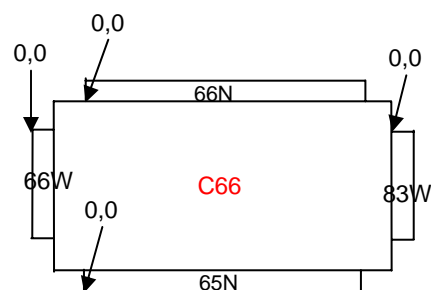
Examples (single Foil)

C2066N

C2066W

C2083W

C2064N



Examples (multiple Foils)

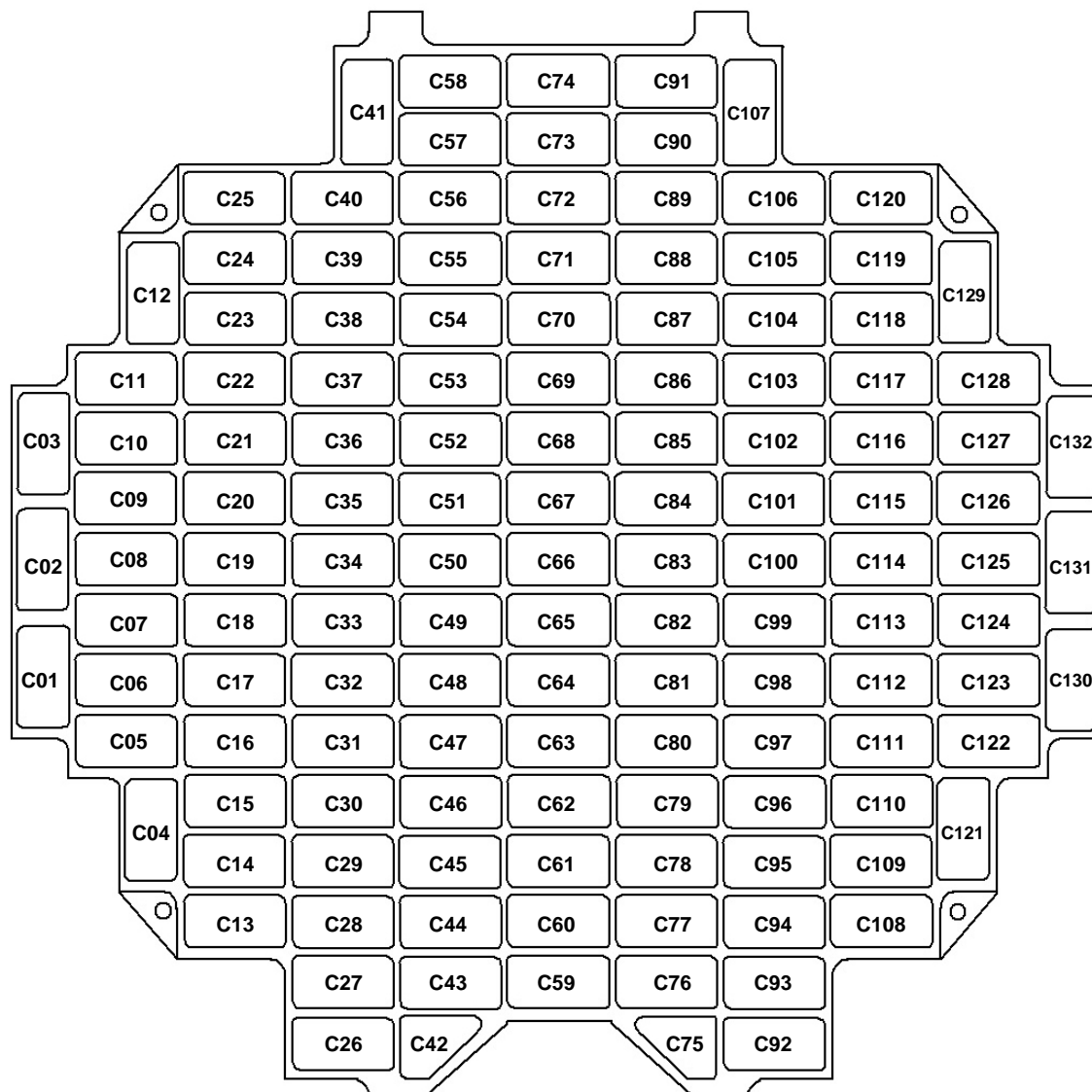
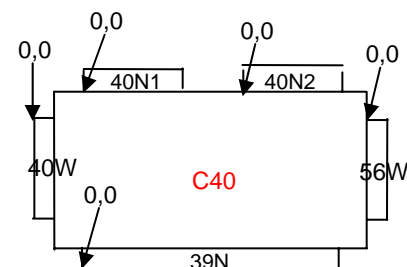
C2056W

C2039N

C2040W

C2040N1

C2040N2



When a given side (N, E, S, or W) possesses more than one foil, the foils are numbered beginning with “1” and continuing clockwise till all are assigned a unique sample number (Ex. N foil above).

Stardust PE Sample Nomenclature

Aluminum Foil (continued)

- Only Cells 107, 120, 129, 128, 122, 121, 108, 93, 92, 130, 131, & 132 will possess an "E" Foil.
- Only Cells 01, 05, 04, 13, 26, 42, 59, 75, 92, 108, 121, 122, & 130 will possess an "S" Foil.

