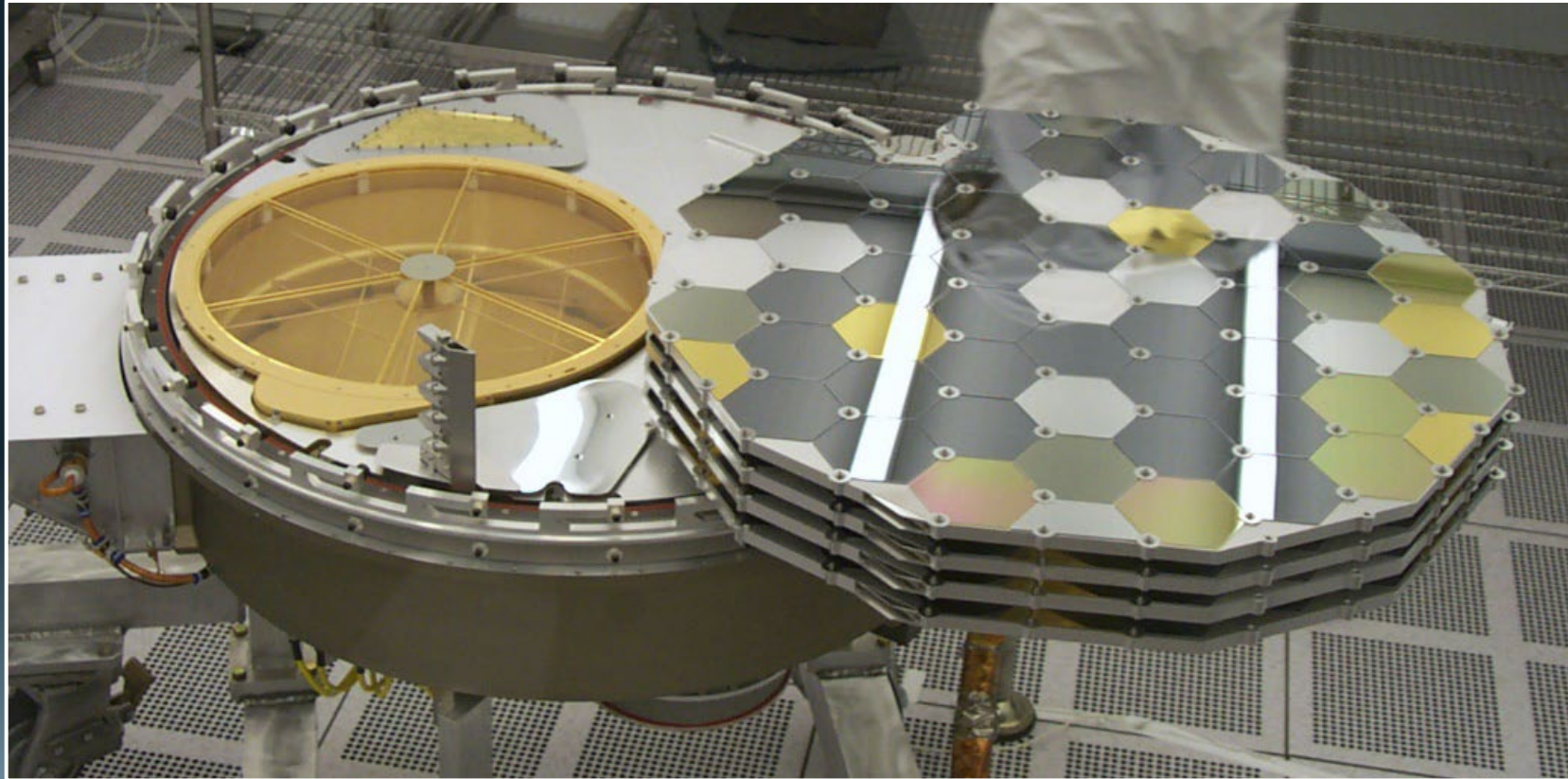




Genesis Solar Wind Sample Curation

**Astromaterials Acquisition
and Curation Office**
NASA/Johnson Space Center
Judy Allton
Carla Gonzalez
Curtis Calva
Kimberly Allums-Spencer, Ph.D.
Lina Mueller
Todd Smith

JSC CURATION GENERAL

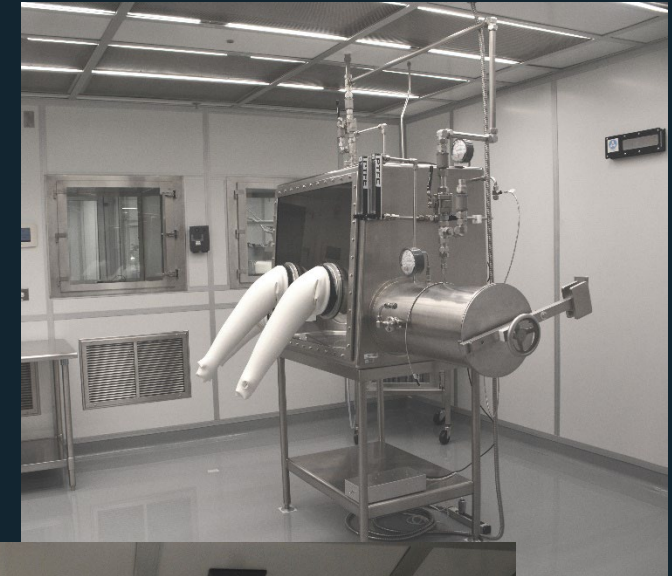
- **NASA ASTROMATERIALS ALLOCATION REVIEW BOARD**
- **LABORATORY AND FACILITIES**
 - New curation facilities
 - Upcoming power outage

GENESIS SPECIFIC

- **GENESIS SAMPLE REQUEST PROCESS**
- **STATUS OF THE ANALYTICAL STANDARDS PILOT PROJECT**
 - Added 4 implant sessions, 19 implanted samples
 - Database upgrades to accommodate the implant session parameters
 - Process reviewed by Jurewicz
- **DATABASE MODIFICATION FOR FLIGHT SAMPLES AND HARDWARE**
 - Sample numbering for array frame hardware
 - Sample flag for “backside thinned”
- **SHELF LIFE OF FLIGHT SAMPLES**
- **20TH ANNIVERSARY ACTIVITIES**

JSC CURATION GENERAL – NEW LAB FACILITIES

OREx



Hayabusa 2

JSC CURATION GENERAL – NEW CLEANING FACILITIES



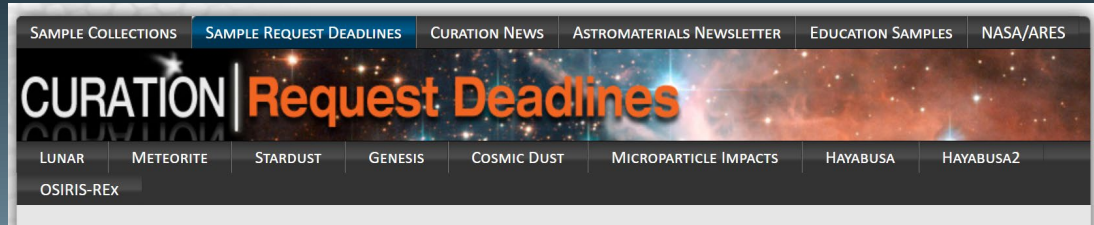
Entry for PreClean, Final Clean, Advanced Cleaning



Advanced Cleaning

GENESIS SAMPLE REQUEST PROCESS

<https://curator.jsc.nasa.gov/genesis/index.cfm>



<https://curator.jsc.nasa.gov/bboard.cfm>

https://curator.jsc.nasa.gov/Astromaterials_Allocation_Review_Board_Charter_2023_Final.pdf

Send requests to Genesis Solar Wind Sample Curator, Mail Code X12, NASA Johnson Space Center, 2101 NASA Parkway, Houston, TX 77058, USA, judith.h.allton@nasa.gov or E-mail ISC-GenesisRequest@mail.nasa.gov

Genesis Solar Wind Sample Request Form

Research Project Title:

Principal Investigator

Name, printed:

Signature:

Affiliation and position:

Office address:

Phone:

E-mail:

Co-investigator(s):

Part 1. Samples Requested

Array samples:

Solar wind regime or array designation (e.g., bulk B/C, coronal mass ejection E, high speed H, interstream low speed L)	Substrate type or specimen number (e.g., SAP or 30554)	Preferred dimensions (e.g., 5x5 mm or 25 mm ²)	Minimum dimensions (e.g., 5x5 mm or 25 mm ²)	Surface quality (good, fair, poor)	Number of samples

Special Samples

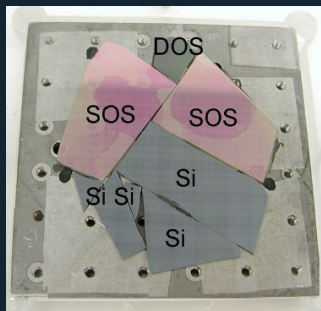
Sample type: (e.g., concentrator target SiC, CVD, DOS, gold foil, polished aluminum)	Substrate type or specimen number (e.g., 50683.5)	Preferred dimensions (e.g., 5x5 mm or 25 mm ²)	Minimum dimensions (e.g., 5x5 mm or 25 mm ²)	Surface quality (good, fair, poor)	Number of samples

Canister/Capsule Reference Material

Sample type: (e.g., canister white paint)	Substrate type or specimen number (e.g., 50683.5)	Preferred dimensions (e.g., 5x5 mm or 25 mm ²)	Minimum dimensions (e.g., 5x5 mm or 25 mm ²)	Surface quality (good, fair, poor)	Number of samples

STATUS OF THE ANALYTICAL STANDARDS PILOT PROJECT

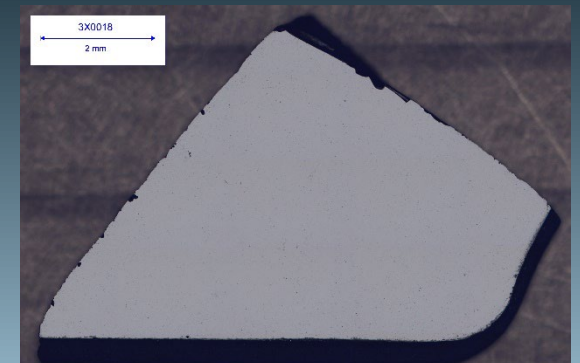
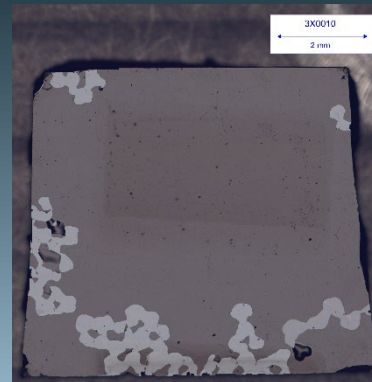
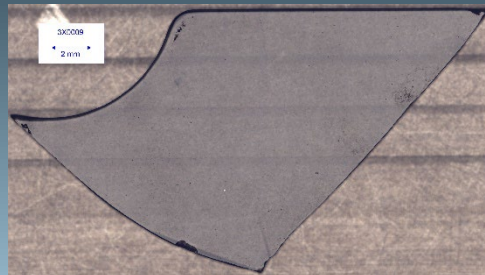
To make available some portion of these materials: Post launch implantation of reference materials managed by Burnett and Jurewicz under mission funding and grants to support Genesis sample analysis, resulting in estimated 1000 samples during >100 implant sessions performed by multiple vendors.



Typical implant plate
7.6 cm

STATUS-

- Added 4 implant sessions, 19 implanted samples
- Database upgrades to accommodate the implant session parameters
- Process reviewed by Jurewicz



STATUS OF THE ANALYTICAL STANDARDS PILOT PROJECT

Database upgrades to accommodate the implant session parameters

Profile

IMPLANT SESSION: A0001

copy edit delete

implant session id: status: implant session number:

implant_session-1	Active	A0001
-------------------	--------	-------

implant session ion: implant session dose: implant session energy:

34S	3e15	35
-----	------	----

implant session date: implant session vendor: implant session calibrated:

10/21/2016	Kroko	N
------------	-------	---

copy edit delete

Relations

Comments

Attachments

Image Gallery

RELATED SAMPLES

index	id	status	sample
1	sample-2255	Active	3X0001.0
2	sample-2256	Active	3X0002.0
3	sample-2257	Active	3X0003.0
4	sample-2258	Active	3X0004.0
5	sample-2259	Active	3X0005.0
6	sample-2260	Active	3X0006.0



IMPLANT
PARAMETERS



LIST SAMPLE
NUMBERS WITH
THIS IMPLANT

Profile

SAMPLE: 3X0003,0

copy

edit

delete

sample id:

status:

sample-2257

Active

generic name:

specific name:

parent name:

3X0003

0

previous name:

quantity:

size:

lot number:

1

18.48 mm x 17.66 mm

manufacturer:

material:

Silicon

investigator:

room:

cabinet:

tray:

Room 1107

N2S5

IMPL01

container type:

Fluoroware

cassette size:

cassette slot:

WITNESS FLAGS

Flight Reference (FREF)

Flight Remnant (FREM)

Implant Sample (IM)

Experimental Material (EM)

Environmental Witness (EW)

Test Analog (TA)

Coating (COAT)

Nitrogen Storage/Handling (N₂)

UPW Cleaned

UV Ozone Cleaned

Ellipsometry

Returned Sample (R)

Related Implant Sessions

A0001

add an implant session

delete implant session

Relations

Comments

Attachments

Image Gallery

SAMPLE SPLITS

index	id	status	sample number
No splits associated with this sample.			

IMPLANT SESSIONS

index	id	n
1	implant_session-1	

STATUS OF THE ANALYTICAL STANDARDS PILOT PROJECT

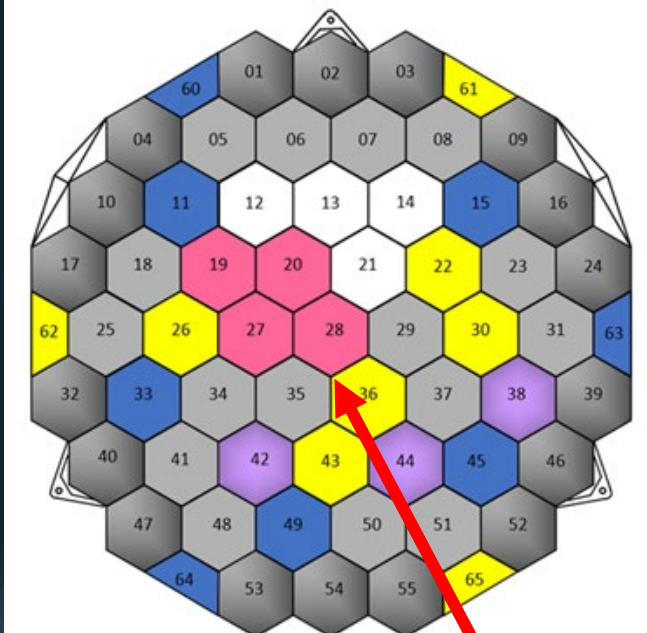
Database upgrades to accommodate the implant session parameters

SAMPLE DESCRIPTION

LIST OF IMPLANTS IN THIS SAMPLE

DATABASE MODIFICATION FOR FLIGHT SAMPLES AND HARDWARE

Sample numbering for array hardware



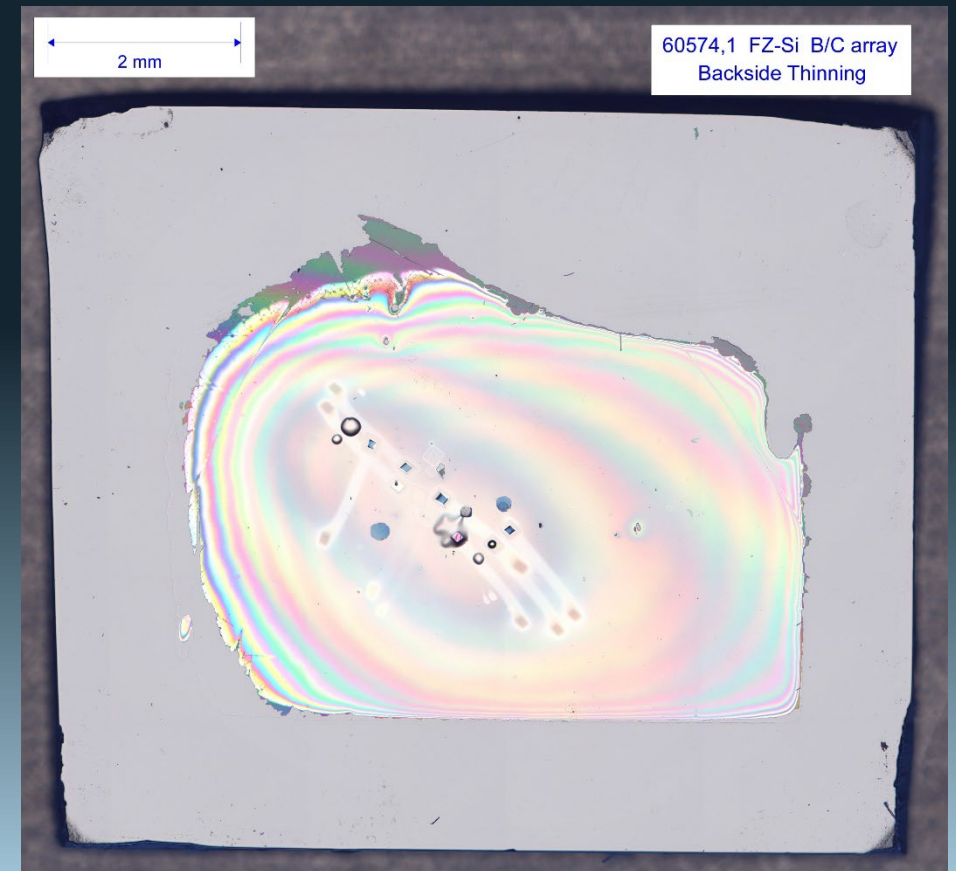
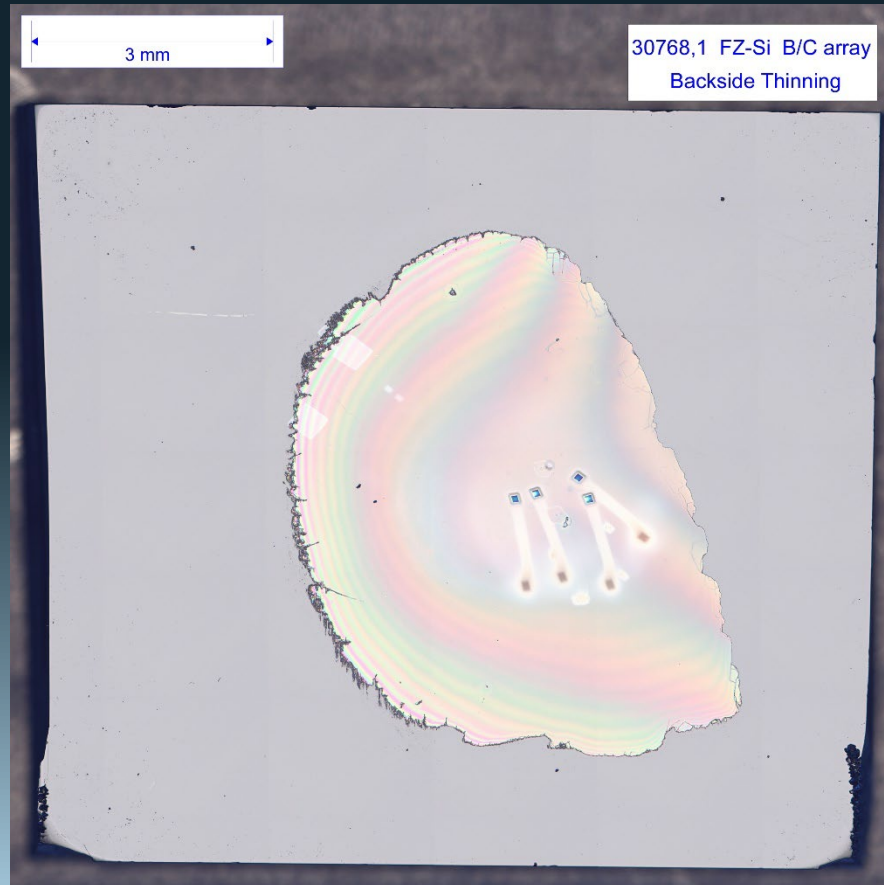
35-36-28



DATABASE MODIFICATION FOR FLIGHT SAMPLES AND HARDWARE

Backside thinning added to Flags

UPW Cleaned, U	☐
UV Ozone Cleaned, Z	☐
Cleaning Matrix, M	☐
Solar Wind Consumed, C	☐
Implanted, I	☐
Returned Sample, R	☐
Post-it Note, P	☐
Backside Thinning, B	☒

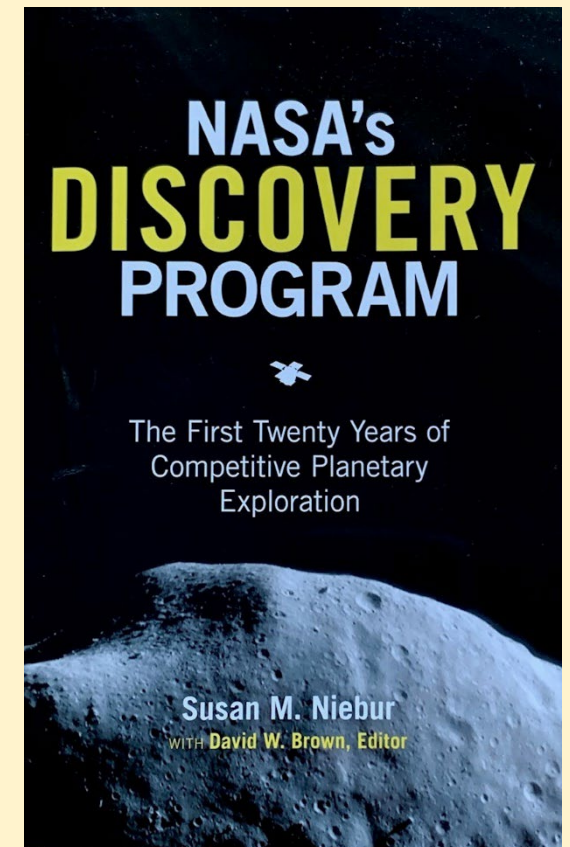


TOPICS FOR DISCUSSION GROUPS

- **Shelf life of flight samples**
 - High priority?
 - Approaches for estimating?
- **20th Anniversary of Sample Return - potential activities**
 - Create timeline for Genesis milestones, events?
 - Update peer-reviewed publication list?
 - Ideas for gathering historical data from participants?
 - Solicit artwork/music depicting Genesis experience?
 - Plan a virtual tag-up social?

Discovery@30, New
Frontiers@20 Symposium June
13-14, 2024

NASA SP-2023-4238



Thank you!

Judith.h.allton@nasa.gov

Carla.p.gonzalez@nasa.gov

Curtis.d.calva@nasa.gov

Kimberly.k.allums-spencer@nasa.gov

Genesis Curation web site:

<https://curator.jsc.nasa.gov/genesis/index.cfm>

Genesis online sample catalog:

<https://curator.jsc.nasa.gov/gencatalog/index.cfm>