

# SEM Results for Witness Sample SN 0932

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Originated 03 August 2021  
E2100107

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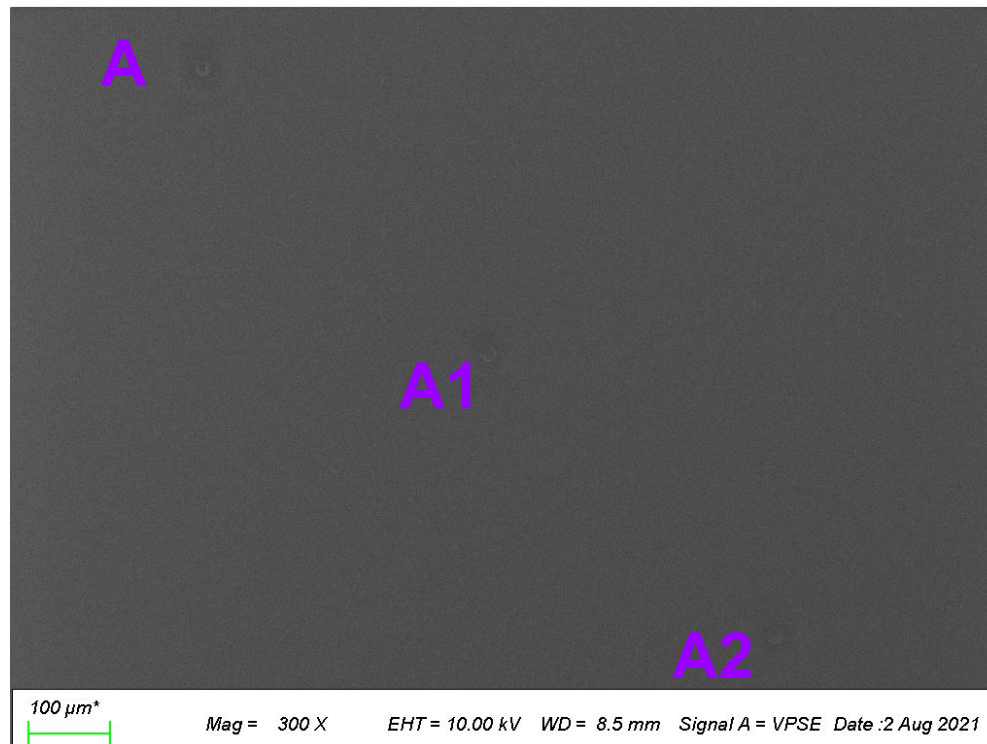
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# Overview

[G2100805](#) (slide 14) finds one “interesting” feature, A - likely had surface EDS similar to coating, but size and appearance suggested it could have been more exciting, so the decision was made to ablate it. A1 and A2 were warmup ablations.

The 02 August SEM efforts looks at the ablation zones after an RTS absorption scan.

In this overview image, each region already had been SEM imaged individually, which accounts for local contrast in similarly-sized rectangular regions.

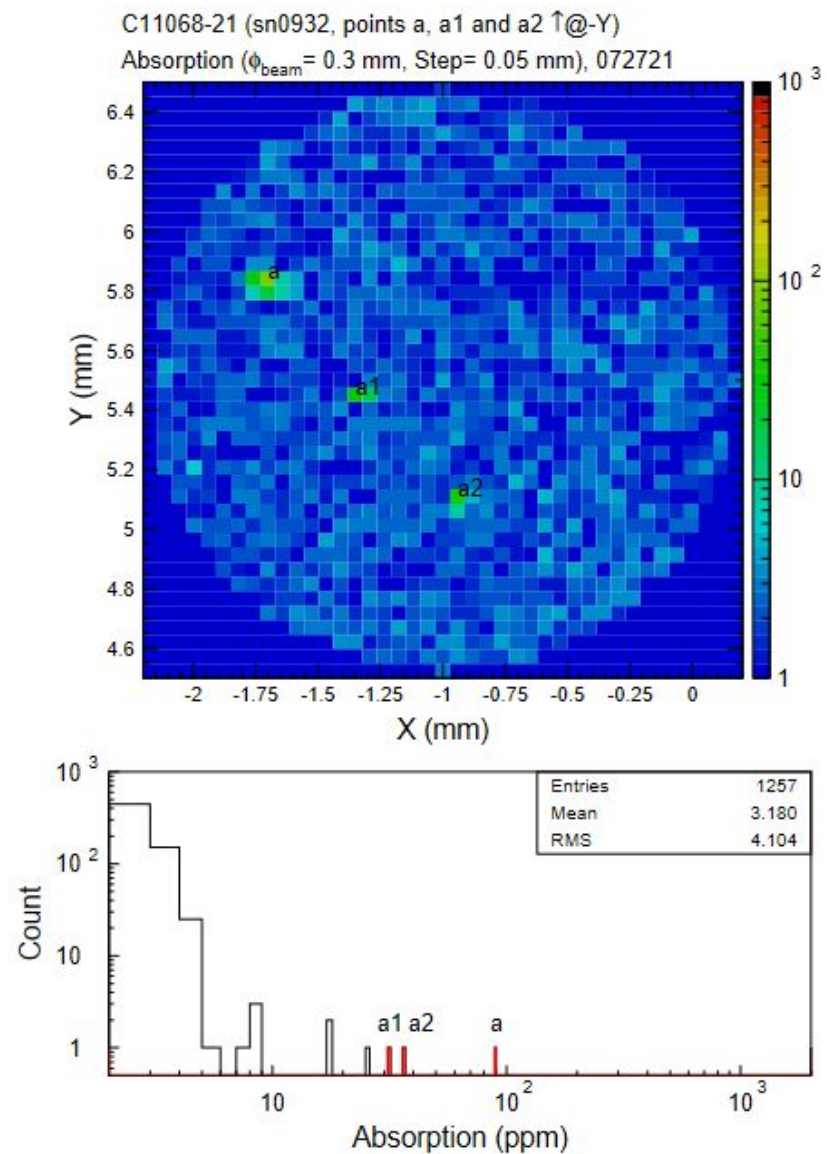


# RTS Map

A is the ablated feature.

A1 and A2 are nearby practice ablations, separated by 0.5 mm.

Ref. E2000107 main document!



Reminder that all images are posted to Catalog

# Catalog and References

All images referenced are posted to [T2000733](#)

Raw Aztec project file is:

- After ablation, before plasma clean “20210802 sn0932.oip”

# Mounting

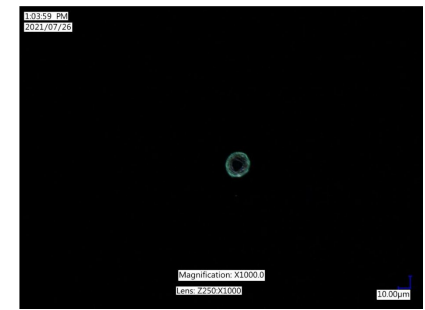
Carbon tape on back surface

Best effort centering

Used optic center and fiducial alignment to find features, didn't even visually check for registration marks or coordinate system (need to refine my habits a bit).

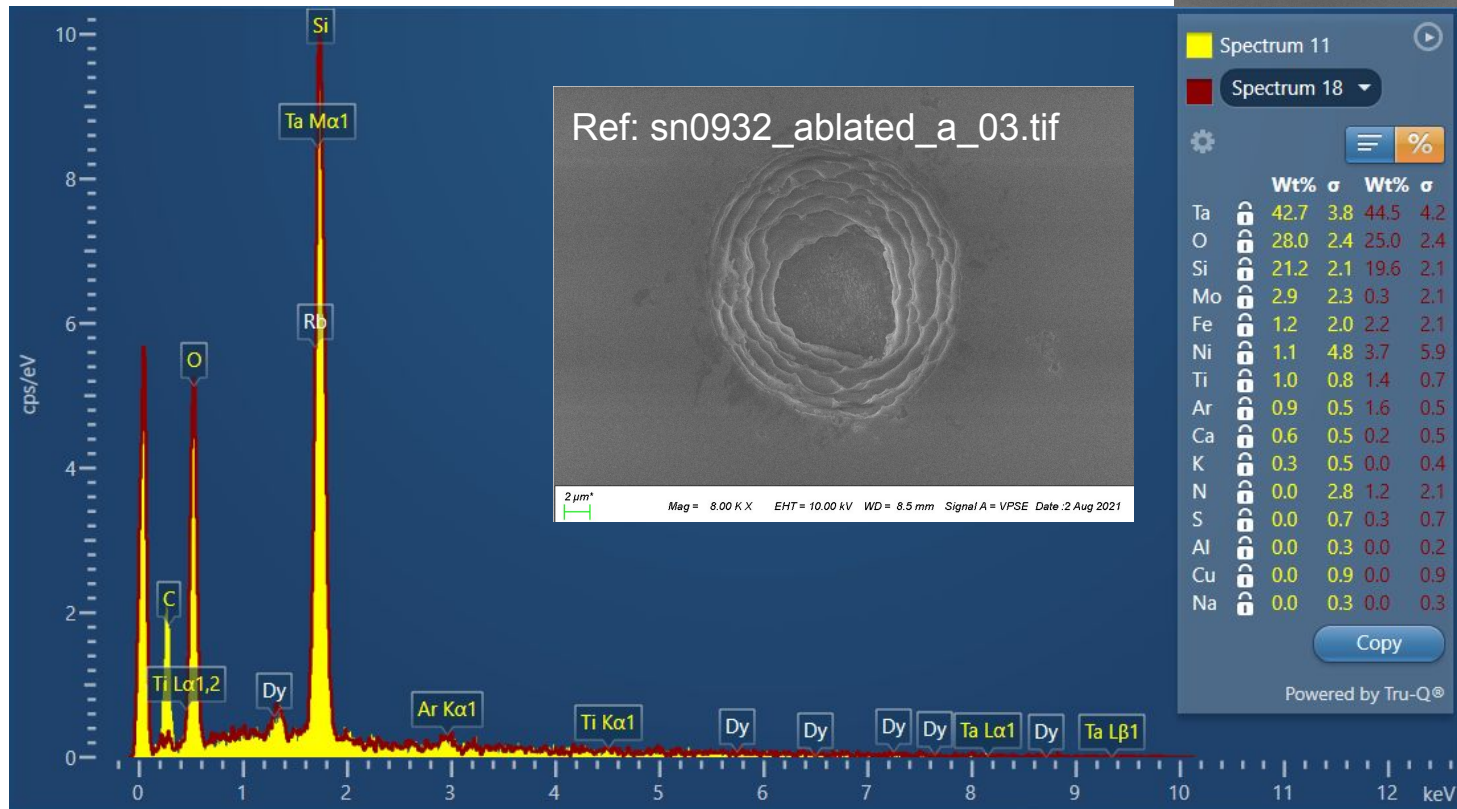
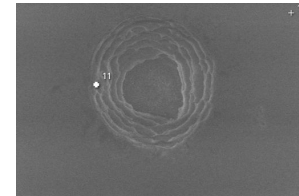
**Oops, no photo**

# Point a Ablated feature



No trace metal composition (no metal had been previously identified)

Carbon present, similar to other ablations on this sample and on SN1535. Working theory points to conductive SEM imaging polymer as the source. We will O<sub>2</sub>-plasma-clean.



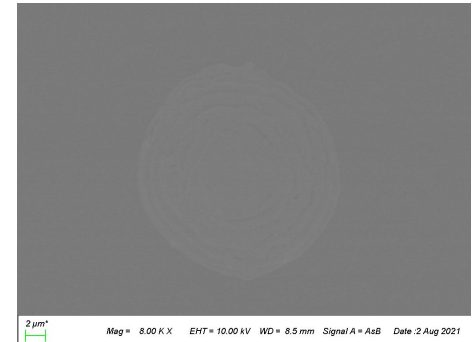
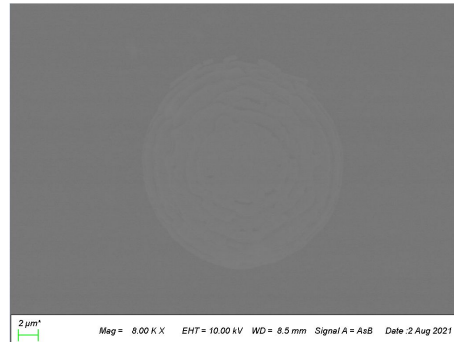
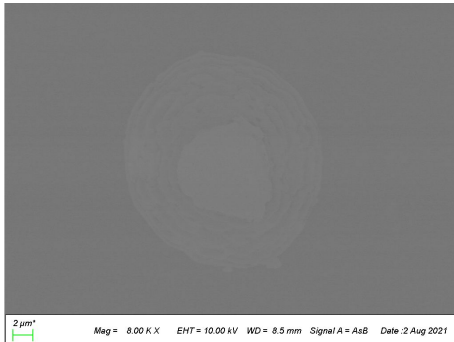
# SEM EDS map post-ablation - all ablations

High resolution mapping shows presence of **Carbon** present in all ablations, around the border.

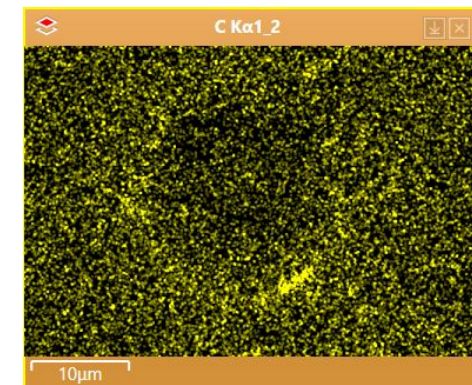
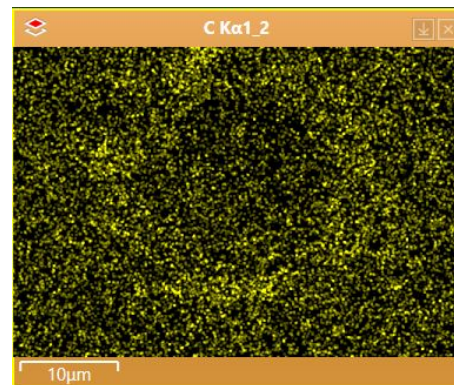
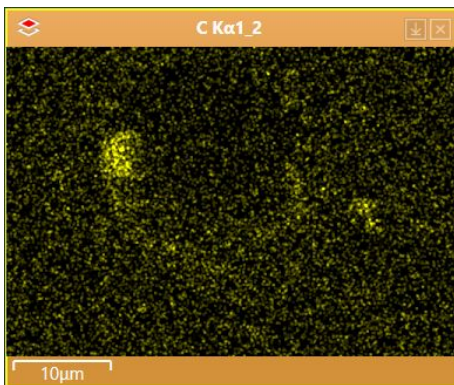
Current speculation is that Carbon could be related to conductive polymer coating applied by MIT for SEM imaging. These results are consistent with speculation, as all features show C signature.

Similar results to those found in SN1535 - ref. [slide 15 of T2100216](#) presentation.

SEM  
Backscatter  
Detector



EDS Carbon  
Map



A

A1

A2