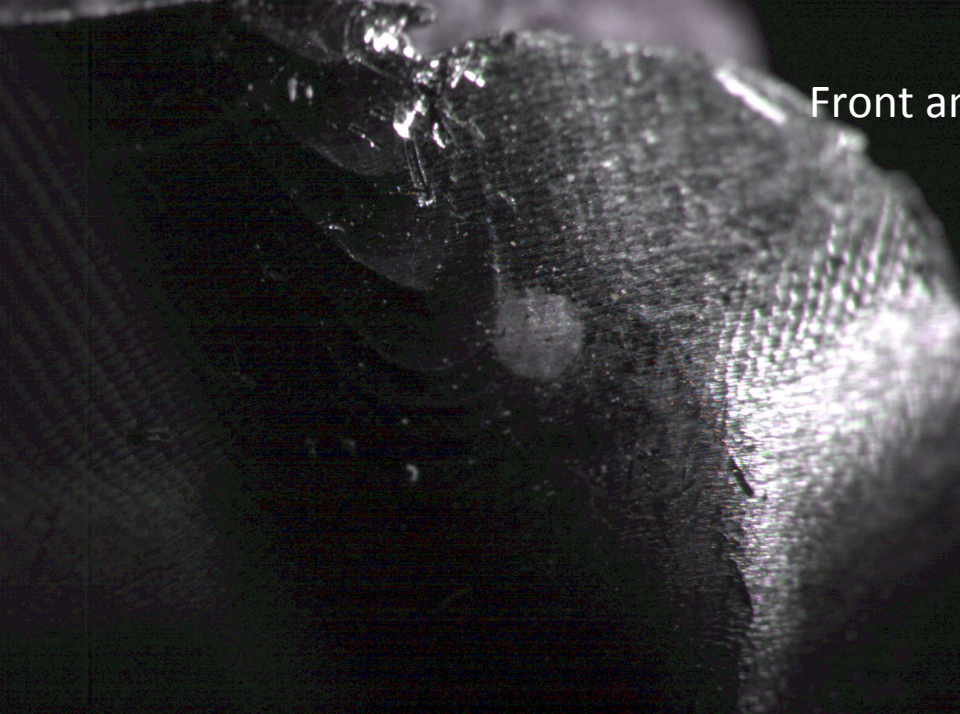
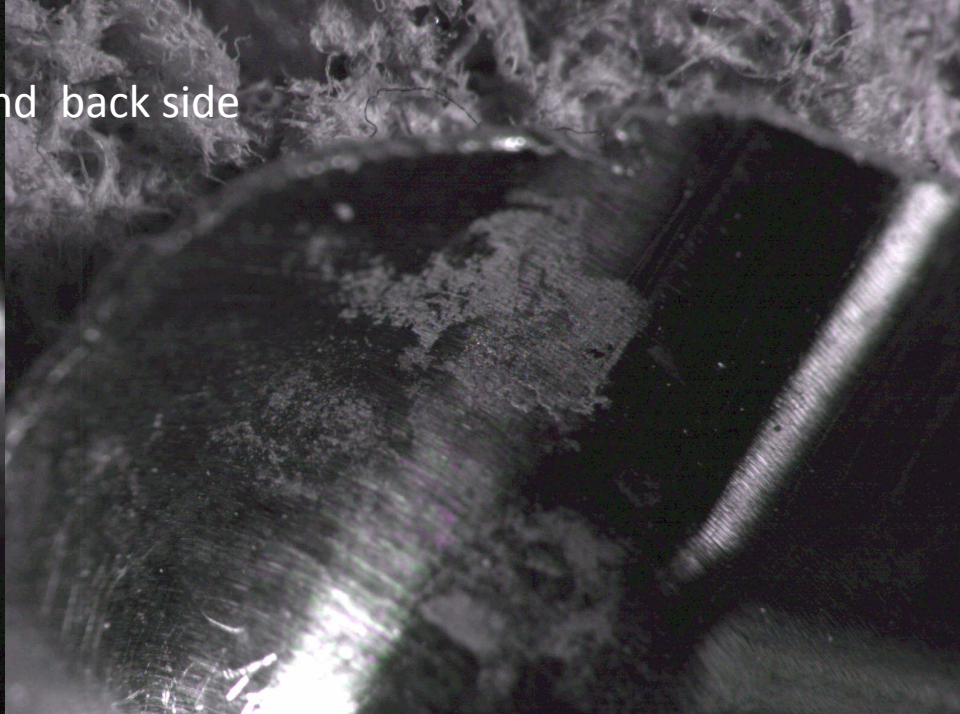


Photos of leak in milled Al-foil; $1.1 \cdot 10^{-6}$ mbar l/s

Olympus Microscope ET
DinoLite Webcam
Scanning electron microscope
(SEM+EDX at VU)



Front and back side

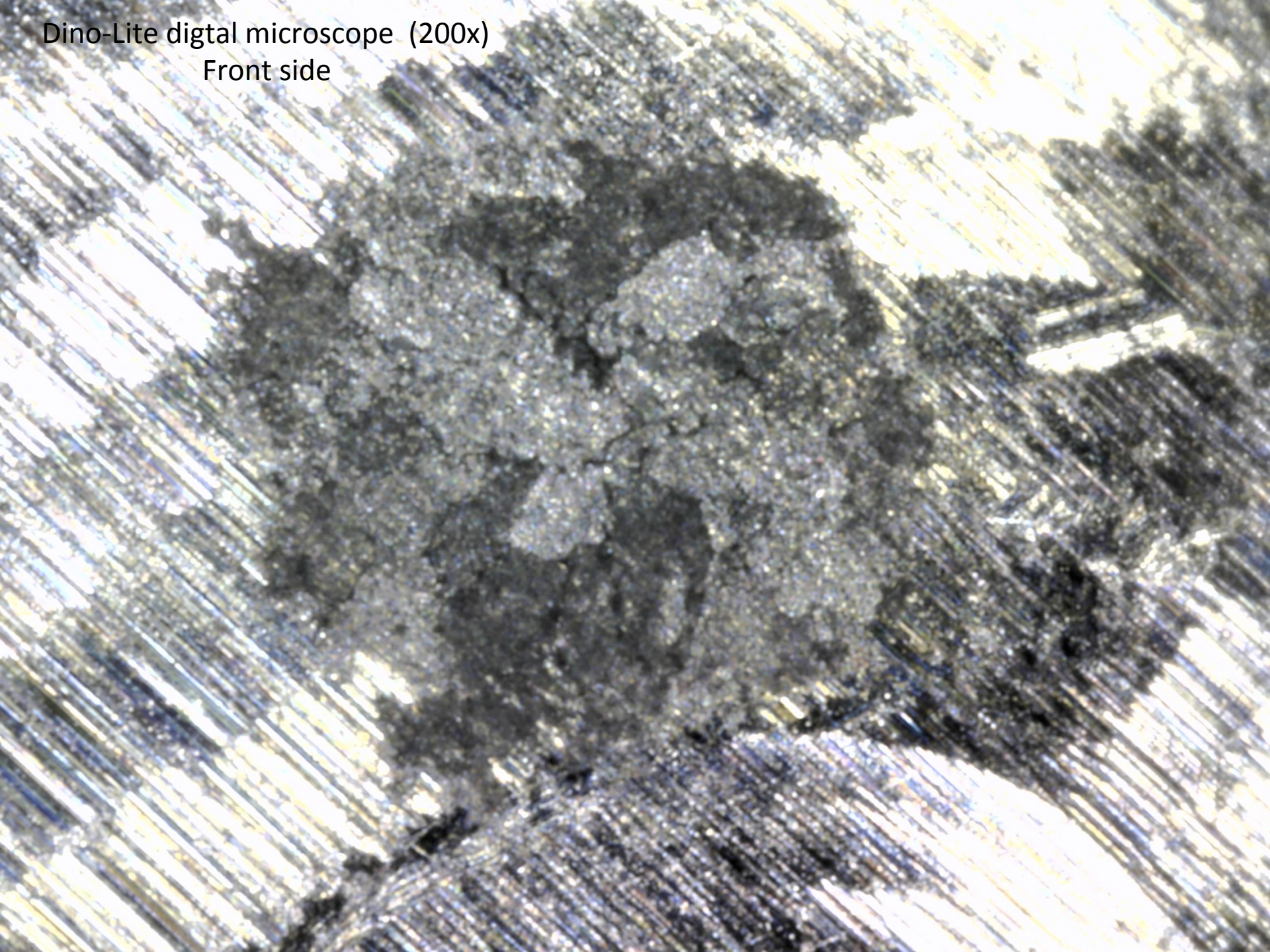


Cracks in front and back side ?

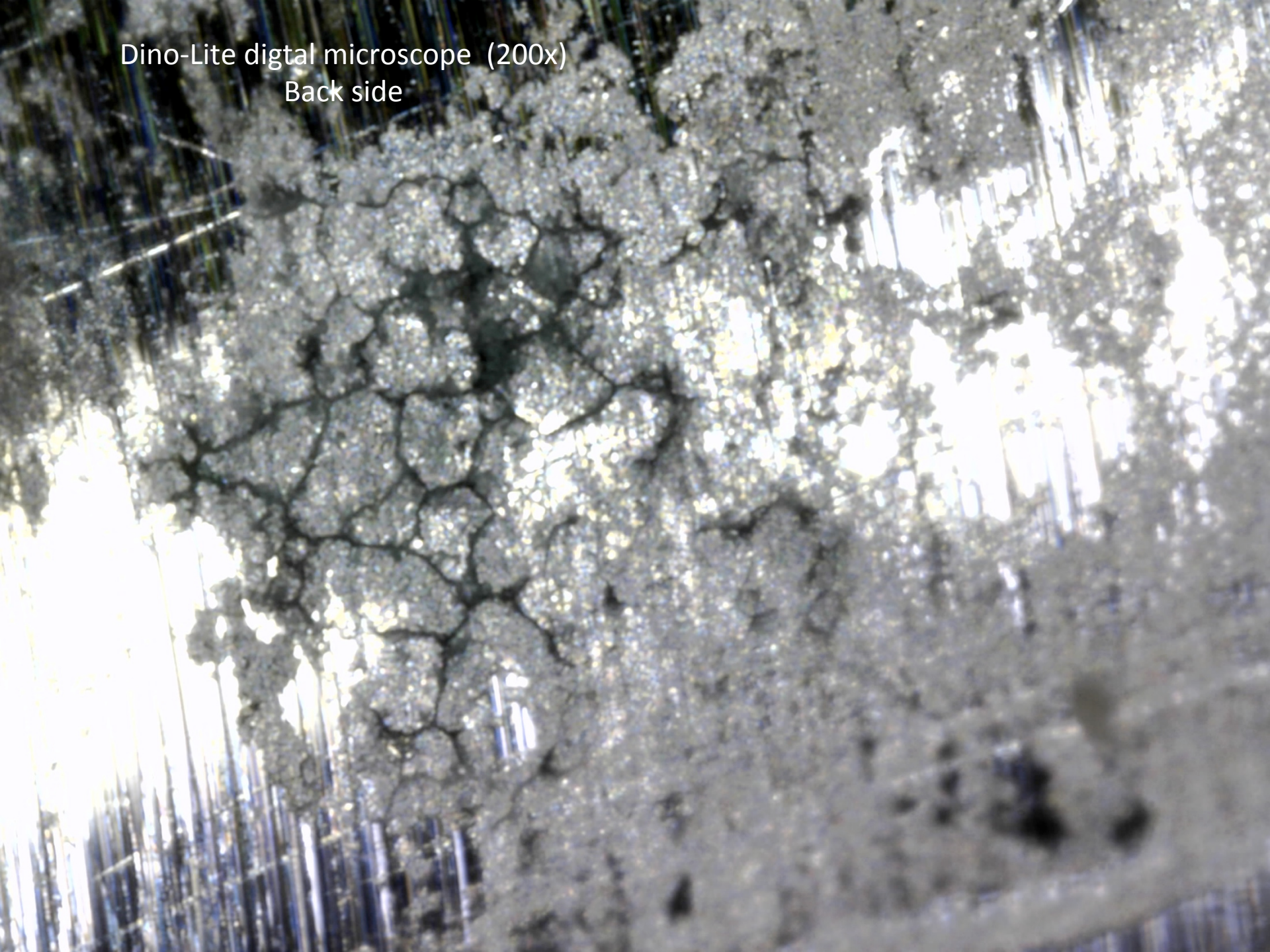


Dino-Lite digital microscope (200x)

Front side

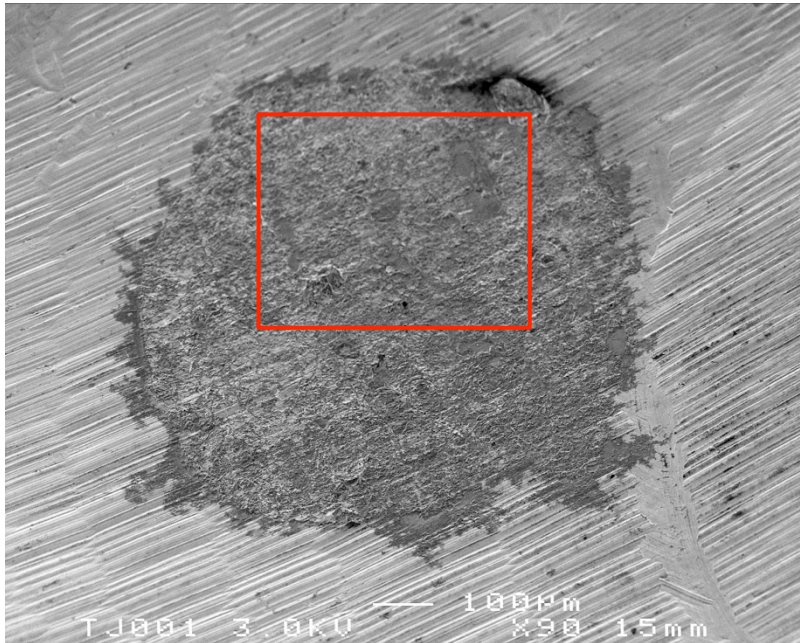


Dino-Lite digital microscope (200x)
Back side



VU SEM pictures of leak spot

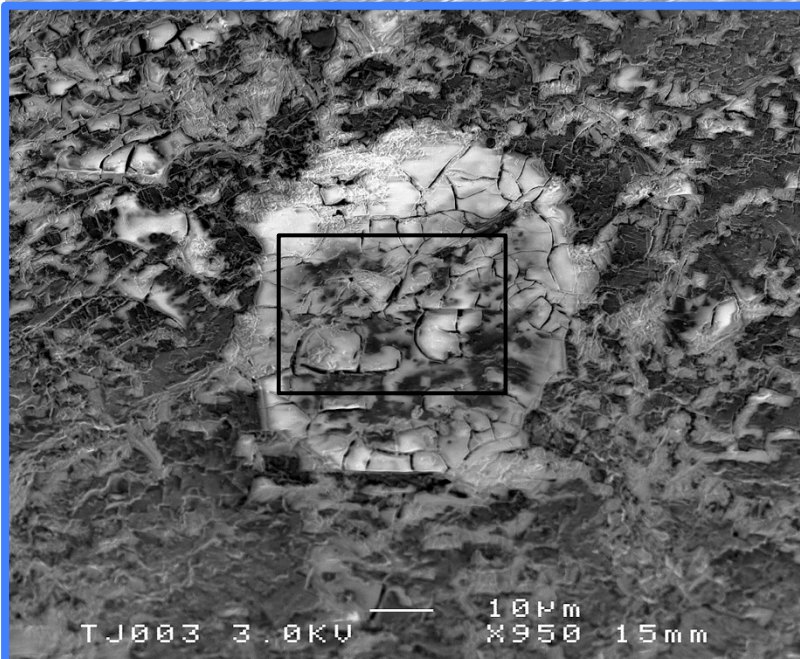
90x



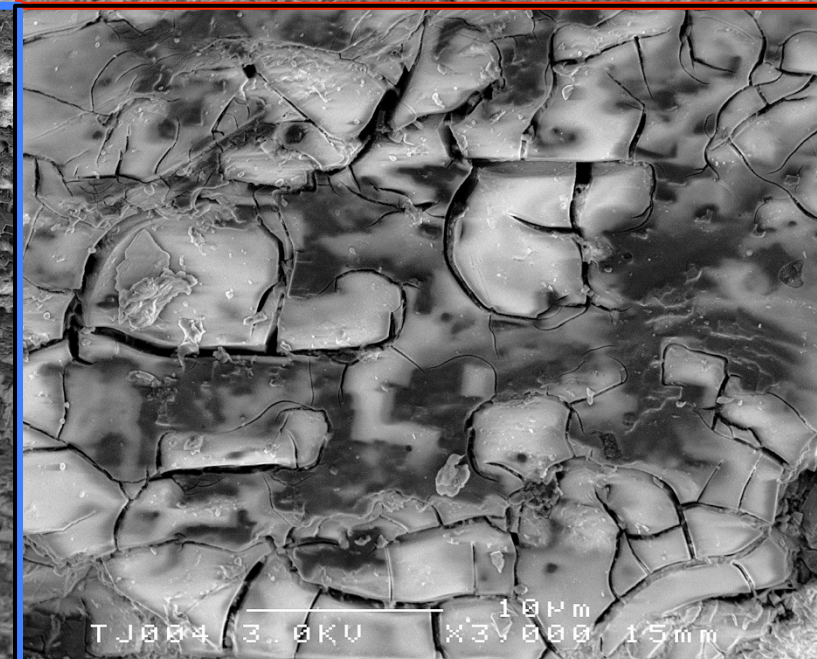
270x



950x



3000x

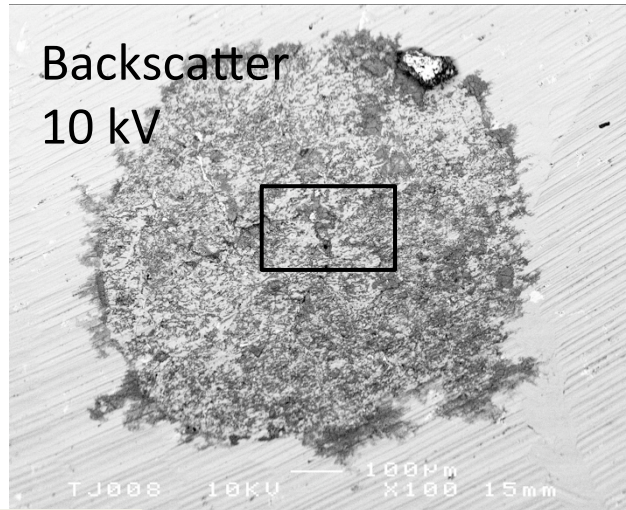
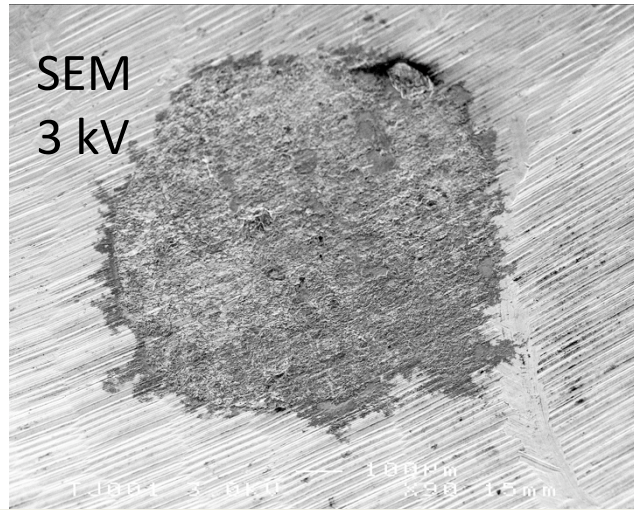


Chemical composition

SEM
3 kV

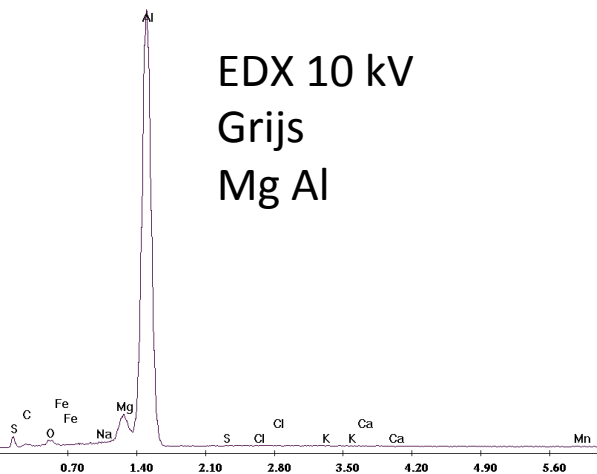
Backscatter
10 kV

Backscatter details for EDX



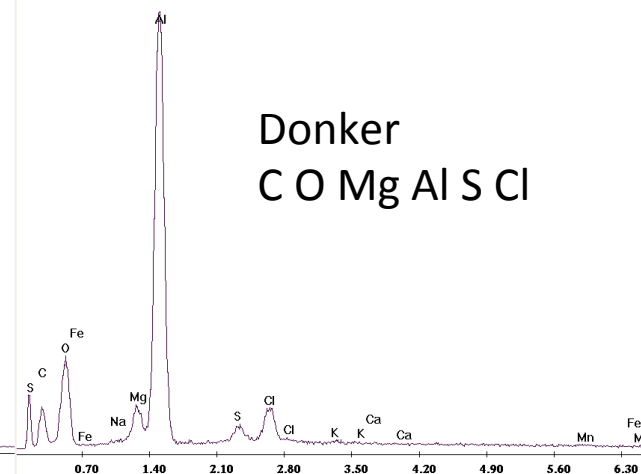
c:\edax32\genesis\genspc.spc

Label A: Tj. ketel Al folie op rondje lichtgrijs gebied, linksonder van lichte spot



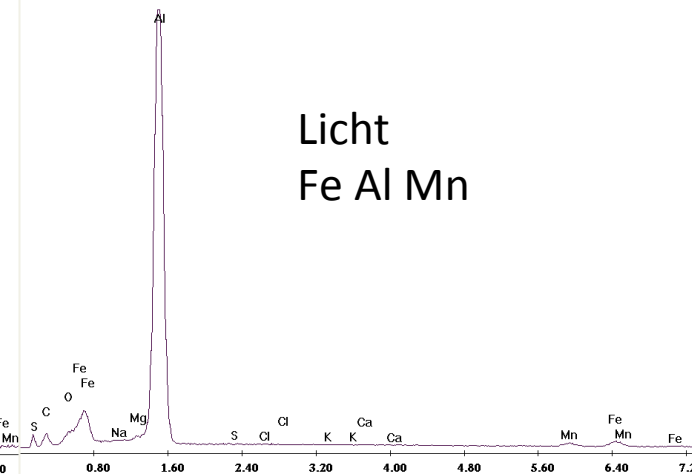
c:\edax32\genesis\genspc.spc

Label A: Tj. ketel Al folie op rondje donkergrijs gebied, rechts van lichte spot



c:\edax32\genesis\genspc.spc

Label A: Tj. ketel Al folie op heldere punt Fe, Mn



Summary and conclusions

- Area of 1 cm around leak is cut from the RF box.
- Leaky area of 1 mm diameter corresponds to a region with large grains that are also observed at the back of the foil.
- X-ray study shows AlMg₃ oxides in the leaky area, but also C, S and Cl.
- Some small regions (10 micron) also contain Fe, Mn and “Al without Mg” (surprise!).
- The 1 mm inclusion is maybe due to a cinder particle from an earlier melt in the same mold.