

Sample Results Summary Sheet

Please return this form to the Curator for each allocated Sample

Sample ID: RA-QD02-0120-01,02

PI: Masayuki Uesugi

Type and date of analysis performed:

RA-QD02-0120-01,02 : TEM analysis (Sep. 26, 2013) by JEM-2800 at JEOL Ltd.

Elements or phases identified: (Mg, Si, olivine, pyroxene, aromatic carbon, etc.)

Carbon material (C, N, O) and Calcium carbonate inclusions

Contaminant phases identified: (Al, SUS, carbon particles, etc.)

N/A

Sample handling: (e.g. exposed in atmosphere, embedded in resin, polished, sliced by FIB or UMT)

Stored in N2 purged holder.

Exposed in atmosphere before and after introducing TEM sample chamber (a few minutes).

State of sample pre-analysis: (e.g. N2 hold, atmosphere, resin embedded, polished section, UTS) (please describe treatments and/or modifications for the sample you have done before your analysis)

RA-QD02-0120-01: Fixed on Cu grid, Stored in N2 purged holder.

RA-QD02-0120-02: Fixed on Cu grid, Stored in N2 purged holder.

State of sample post-analysis:

RA-QD02-0120-01: Fixed on Cu grid, Stored in N2 purged holder.

RA-QD02-0120-02: Fixed on Cu grid, Stored in N2 purged holder.

Analysis data Notes: (summary of the attached analysis data and/or images)

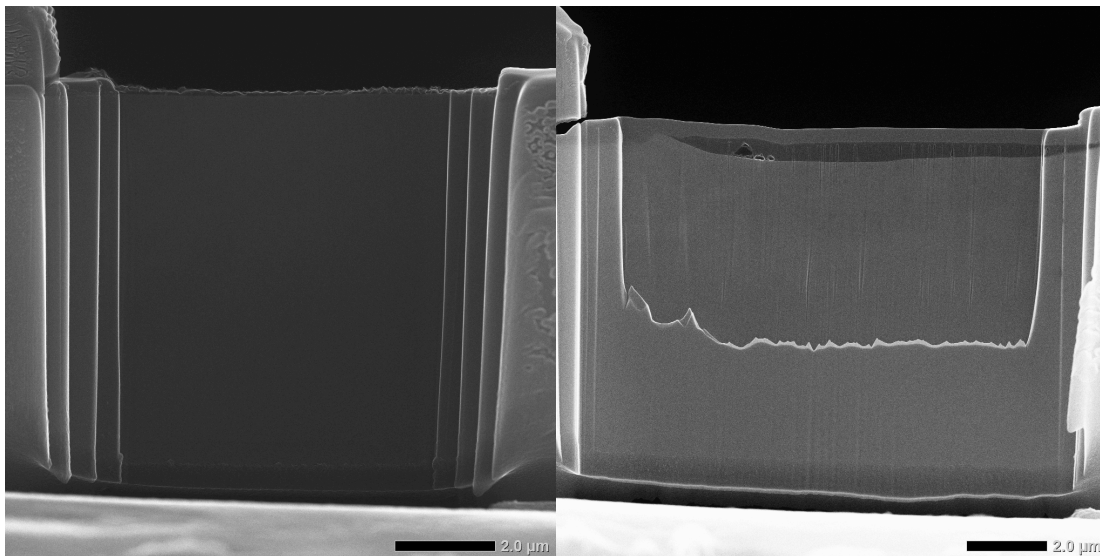


Fig.1 SEI images of the ultra-thin sections. (left) RA-QD02-0120-01. Pressed sample on the top the section would be lost during FIB fabrication. (right) RA-QD02-0120-02. Thin layer of the pressed sample (dark portion) can be observed between layers of W-deposition and Au substrate. A large Ca-carbonate inclusion can be observed in the pressed sample (dark inclusion in the pressed sample).

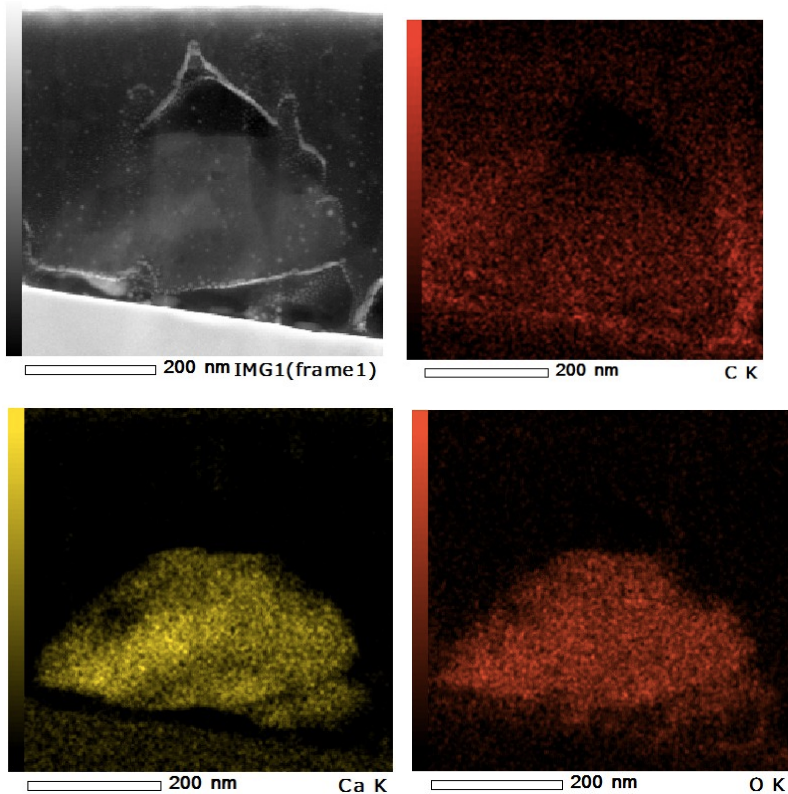


Fig. 2 TEM-EDS mapping images of a Ca-carbonate inclusion in RA-QD02-0120-02.

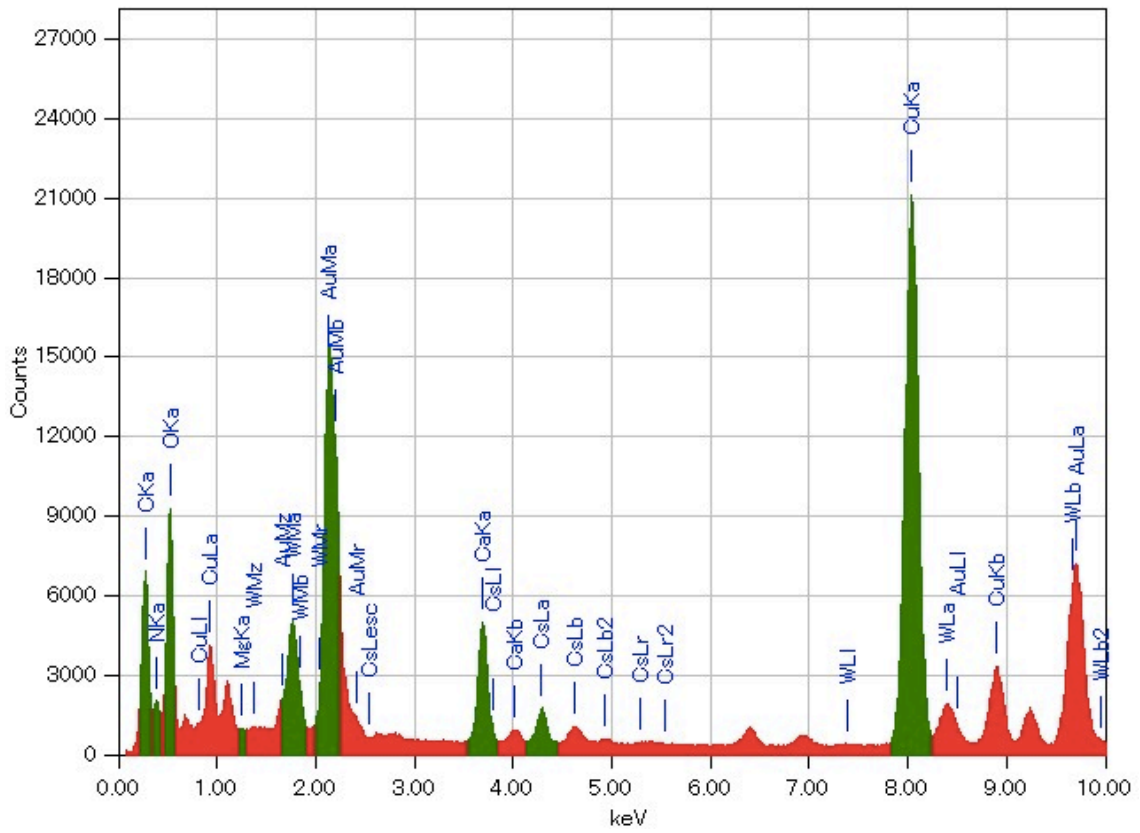


Fig. 3 EDS spectrum of the carbon portion of RA-QD02-0120-02. Cu, Au, Cs and W are contaminations from sample mesh holder, substrate, primary ion beam of NanoSIMS and deposition during FIB.