Foil C2044N1 Preliminary Examination

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High resolution scanning was done on a central portion of 1/2 ("a") of this foil, which was cut in two in order to fit it into our sample holder for low resolution scanning (see C2044N1 for results).

High Resolution Crater Scanning

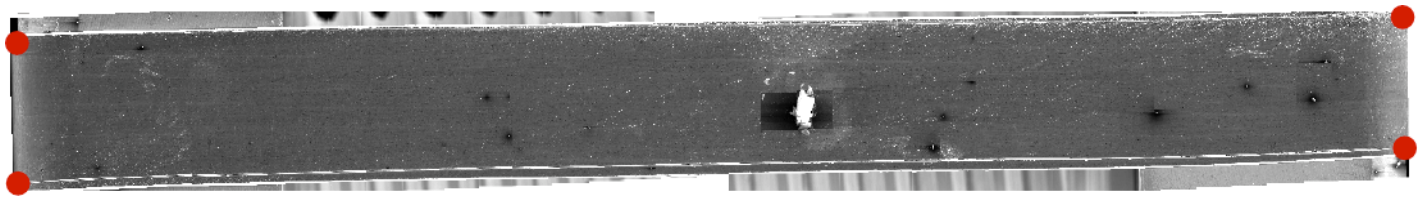
JEOL 840A Scanning Electron Microscope
Measurement Conditions: 10 kV, 5nA, 1000x magnification
Secondary electron imaging of an area of 5 mm^2

EDX Analyses

JEOL 840A Scanning Electron Microscope
Measurement Conditions: 10 kV, 5nA, 120 sec acquisition time

Crater Locations

Overview of foil C2044N1a; the coordinates of the corners given in the table below refer to the corners of the foil, as shown in this photo, not the corners of the area scanned.



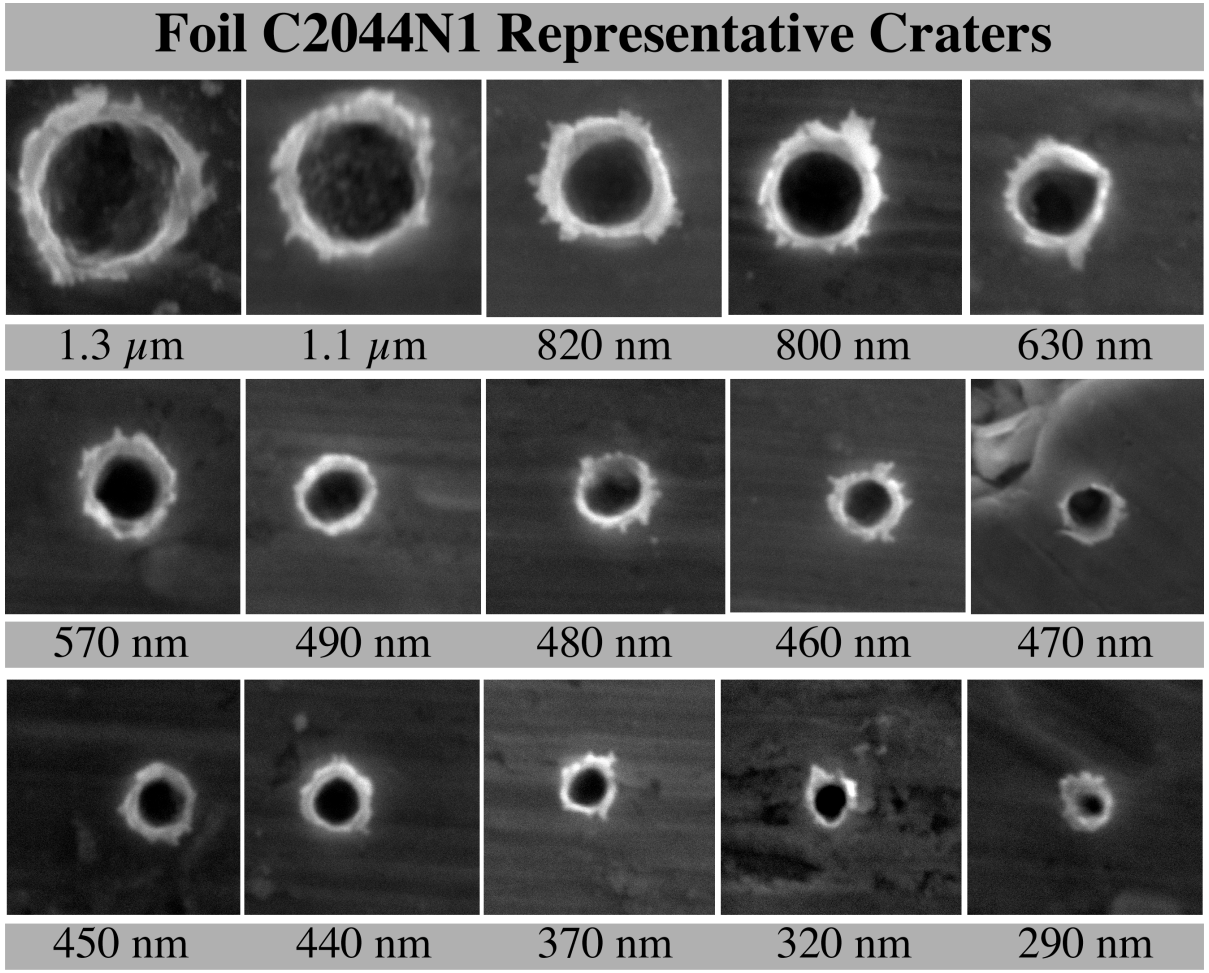
Crater	X (mm)	Y (mm)	Crater	X (mm)	Y (mm)
upper left corner	30.832	34.825	upper right corner	15.134	29.950
lower left corner	30.288	36.437	lower right corner	14.651	31.488
1	19.76	31.849	23	23.582	33.081
2	19.572	32.285	24	23.321	32.940
3	19.301	32.365	25	23.623	33.320
4	19.080	31.837	26	23.728	33.466
5	19.233	32.131	27	23.740	33.735
6	19.291	32.368	28	23.347	33.531
7	19.570	32.841	29	23.717	33.796
8	19.145	32.615	30	23.542	33.671
9	19.107	32.609	31	23.655	33.875
10	21.575	32.762	32	23.450	33.803
11	21.129	32.127	33	25.389	33.841
12	20.926	31.996	34	24.869	34.362
13	20.653	31.874	35	24.360	34.037
14	20.881	32.023	36	22.385	32.664
15	20.942	31.978	37	21.918	32.385
16	21.141	32.439	38	21.959	32.579
17	21.141	32.439	39	21.956	32.586
18	21.148	32.444	40	22.319	32.848
19	20.689	32.449	41	21.968	32.742
20	20.369	32.222	42	22.143	33.415
21	20.611	32.719	43	22.146	33.084
22	23.910	32.974	44	21.556	33.173

Crater Size Distribution

Crater	Image File	Size (μm)	Crater	Image File	Size (μm)
1	f3aHR4_14_40k	0.49	23	f3aHR1_50_40k	0.48
2	f3aHR4_58_40k	0.63	24	f3aHR1_53_40k	0.42
3	f3aHR4_87_40k	0.57	25	f3aHR1_76_40k	0.26
4	f3aHR4_out_40k	0.82	26	f3aHR1_88_40k	0.24
5	f3aHR4_71_40k	0.25	27	f3aHR1_128_40k	0.4
6	f3aHR4_nn_40k	0.37	28	f3aHR1_133_40k	0.45
7	f3aHR4_109_40k	0.8	29	f3aHR1_142_40k	0.24
8	f3aHR4_114_40k	0.63	30	f3aHR1_145_40k	0.44
9	f3aHR4_115_40k	0.26	31	f3aHR1_156_40k	0.23
10	f3aHR3_1_30k	1.3	32	f3aHR1_159_40k	0.52
11	f3aHR3_22_40k	0.43	33	f3aHR_43_40k	0.38
12	f3aHR3_25_40k	0.32	34	f3aHR_157_40k	0.43
13	f3aHR3_28_40k	0.32	35	f3aHR_164_40k	0.4
14	f3aHR3_40a_40k	0.37	36	f3aHR2_5_40k	0.46
15	f3aHR3_25a_40k	0.23	37	f3aHR2_12_40k	0.3
16	f3aHR3_65_40k	0.26	38	f3aHR2_36_40k	0.42
17	f3aHR3_65_40k	0.22	39	f3aHR2_36a_40k	0.22
18	f3aHR3_65a_40k	0.32	40	f3aHR2_43_40k	0.23
19	f3aHR3_114_40k	1.09	41	f3aHR2_61_40k	0.4
20	f3aHR3_119_40k	0.28	42	f3aHR2_133_40k	0.51
21	f3aHR3_158_40k	0.33	43	f3aHR2_83_40k	0.47
22	f3aHR1_5_40k	0.29	44	f3aHR2_153_40k	0.54

Bin size (μm)	# of craters	Flux (#/mm^2)
1.17 – 1.76	1	0.2
0.78 – 1.17	3	0.6
0.52 – 0.78	4	0.8
0.35 – 0.52	18	3.6
0.23 – 0.35	14	2.8
0.15 – 0.23	4	0.8

Photos


Foil C2044N1 Representative Craters
1.3 μm
1.1 μm
820 nm
800 nm
630 nm
570 nm
490 nm
480 nm
460 nm
470 nm
450 nm
440 nm
370 nm
320 nm
290 nm

Crater Compositional Information

Crater	Size (μm)	Qualitative Composition* (EDX)	Crater	Size (μm)	Qualitative Composition* (EDX)
1	0.49	C, O, Fe, Mg, Si, S	23	0.48	C, O, Si
2	0.63	C, O, Fe, Mg, Si, S	24	0.42	C, O, Fe, Mg, Si, S, **Ca**
3	0.57	C, O, Fe, Mg, Si, S	25	0.26	C, O
4	0.82	C, O, Fe, Mg, Si, P, S	26	0.24	C, O, Fe, Mg, Si, S
5	0.25	C, O, Fe, Mg, Si, P, S	27	0.4	C, O, Fe, Si, S
6	0.37	C, O, Fe, Mg, Si, P, S	28	0.45	C, O, Fe, Mg, Si, S
7	0.8	C, O, **Fe**, Mg, Si, S	29	0.24	C, O, Fe, S
8	0.63	C, O, Fe, Mg, Si, S	30	0.44	C, O, Fe, S
9	0.26	C, O, Fe, Mg, Si, S	31	0.23	C, O, Fe, S
10	1.3	C, O, Fe, Mg, Si, S	32	0.52	C, O, Fe, **Mg**, **Si**, S
11	0.43	C, O, Fe, Mg, Si, S	33	0.38	C, O, Fe, Mg, Si, S
12	0.32	C, O	34	0.43	C, O, Fe, Na, Mg, Si, S
13	0.32	C, O, Fe, Si, S	35	0.4	C, O, Fe, Mg, Si, S
14	0.37	C, O, Fe, S	36	0.46	C, O, Fe, Ni, Mg, Si, S
15	0.23	C, O	37	0.3	C, O, Fe, Ni, Mg, Si, S
16	0.26	C, O, Fe, Si, S	38	0.42	C, O, Fe, Mg, Si, S
17	0.22	no data	39	0.22	C, O, Fe, Mg, Si, S
18	0.32	C, O, Fe, S	40	0.23	C, O, Fe, Mg, Si, S
19	1.09	C, O, Fe, **Mg**, **Si**, S, **Ca**	41	0.4	C, O, Fe, Mg, Si, S
20	0.28	C, O	42	0.51	C, O, Fe, **Mg**, Si, S
21	0.33	C, O, Mg, Si	43	0.47	C, O, Fe, Mg, Si, S
22	0.29	C, O, Fe, S	44	0.54	C, O, Fe, Mg, Si, S

*bold indicates dominant peaks