

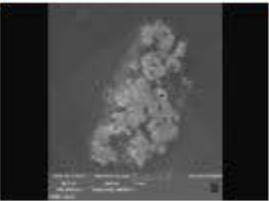
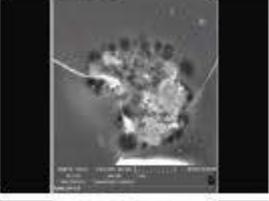
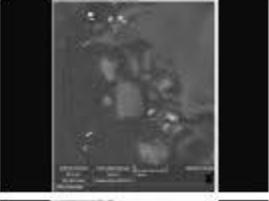
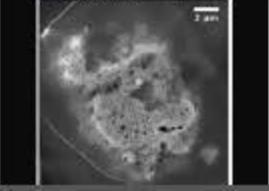
# Stardust SEM Bullet Survey

## Volume 1

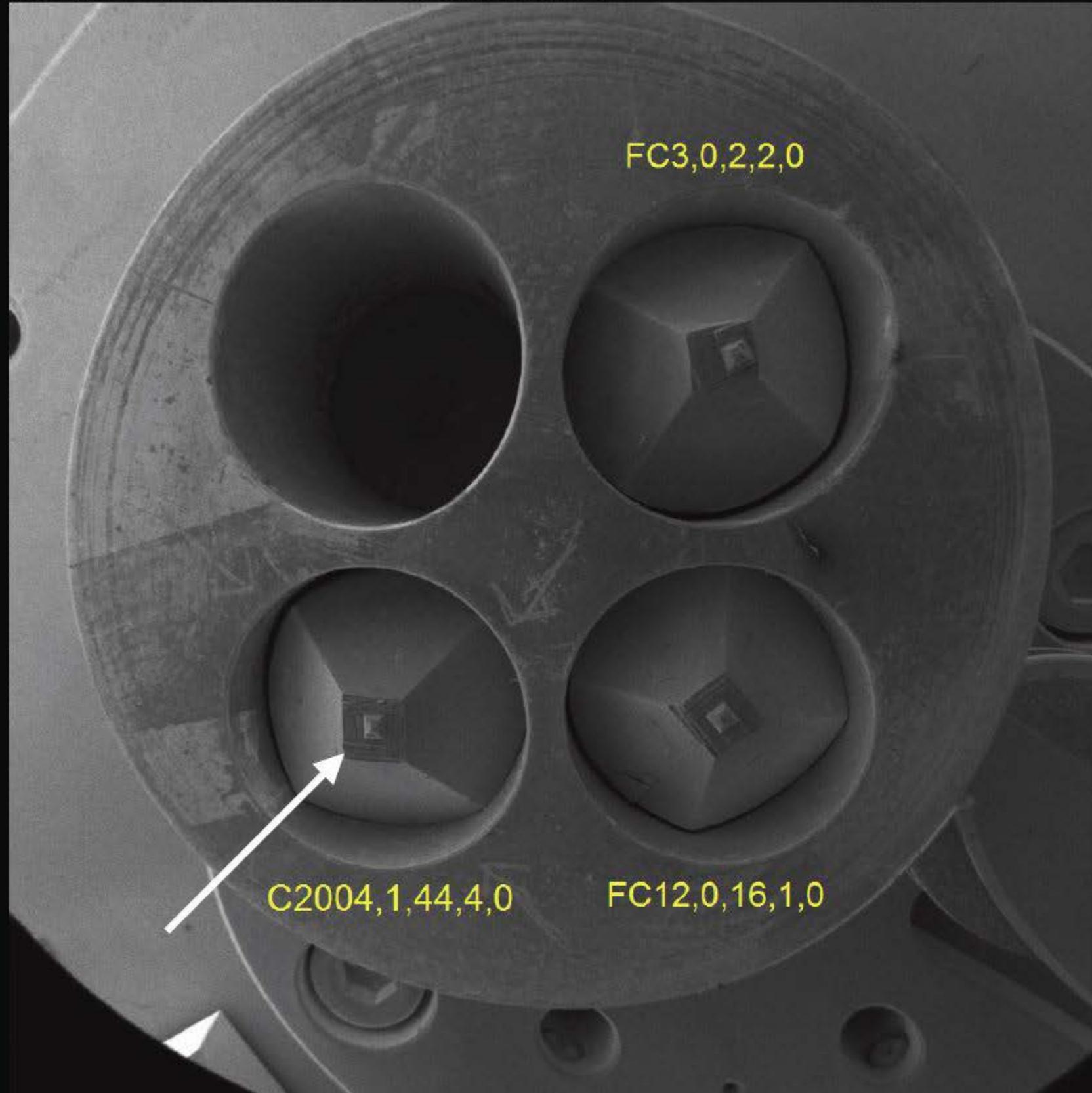
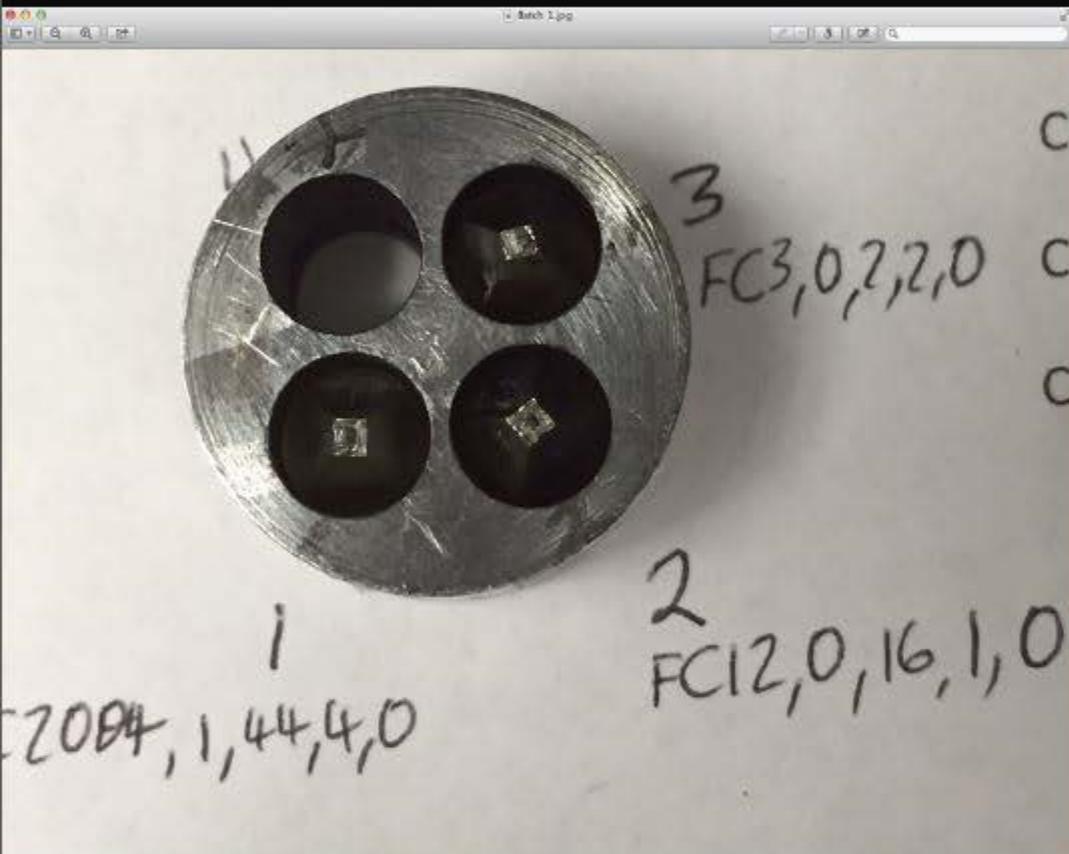
Zack Gainsforth

22 Sep 2014

# Summary

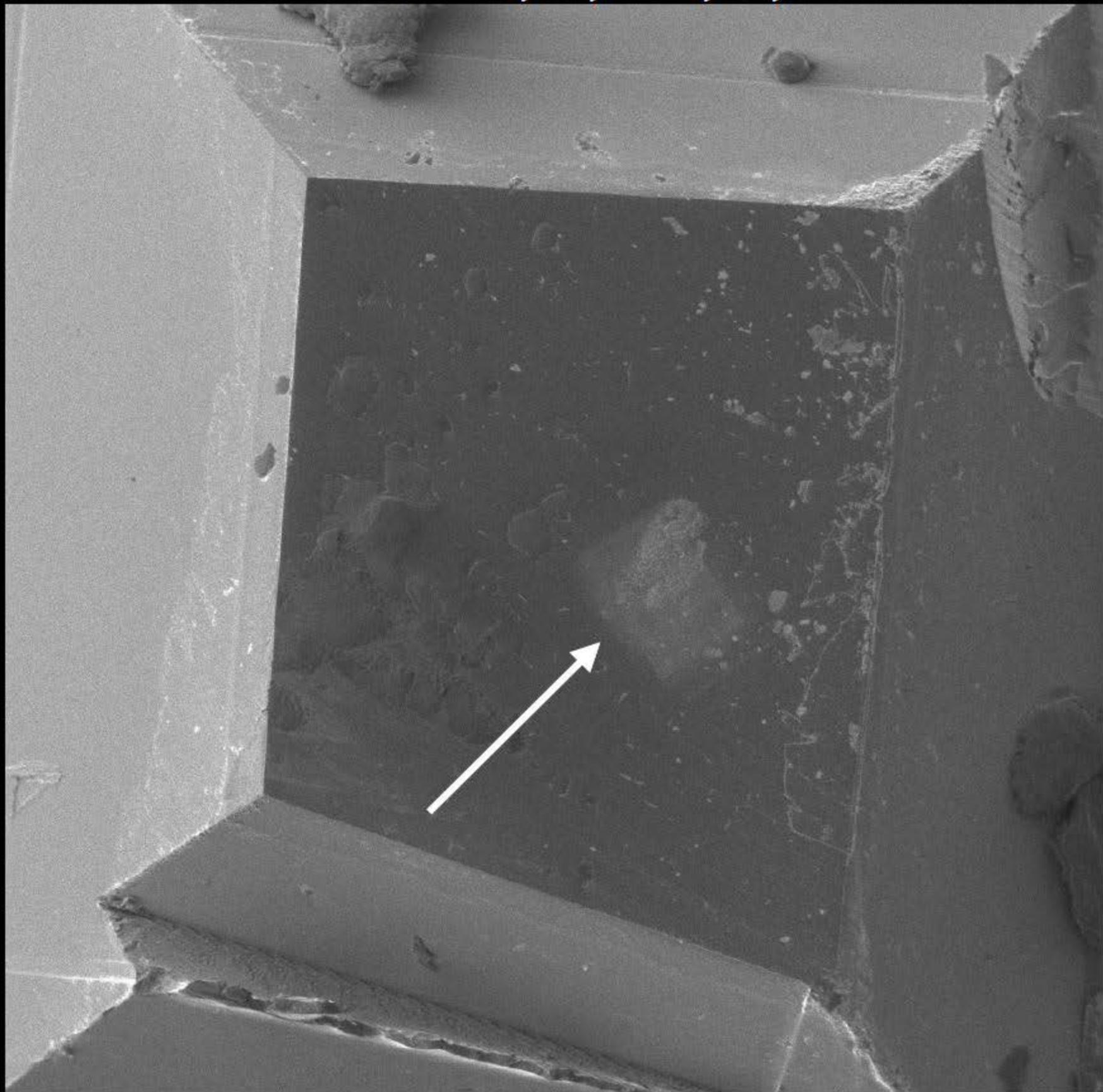
Bullet	Image	EDS	Summary	Recommend SIMS?
C2004,1,44,4,0		Y	Material clearly visible. Fine grained.	Y
FC12,0,16,1,0		N	Nothing visible.	N
FC3,0,2,2,0		N	Material visible, but likely altered by previous experiment.	N
C2054,0,35,16,0		N	Material visible, possibly altered by previous experiment	N
C2044,2,41,3,0		Y	Material visible. Heterogeneous assembly of different phases.	Y
C2092,2,80,46,0		Y	Aerogel visible, not clear if much track is present.	Y
C2092,2,80,48,0		Y	Material clearly visible. Fine grained.	Y
C2092,2,80,49,0		Y	Material clearly visible. Fine grained.	Y

# Overview of first batch



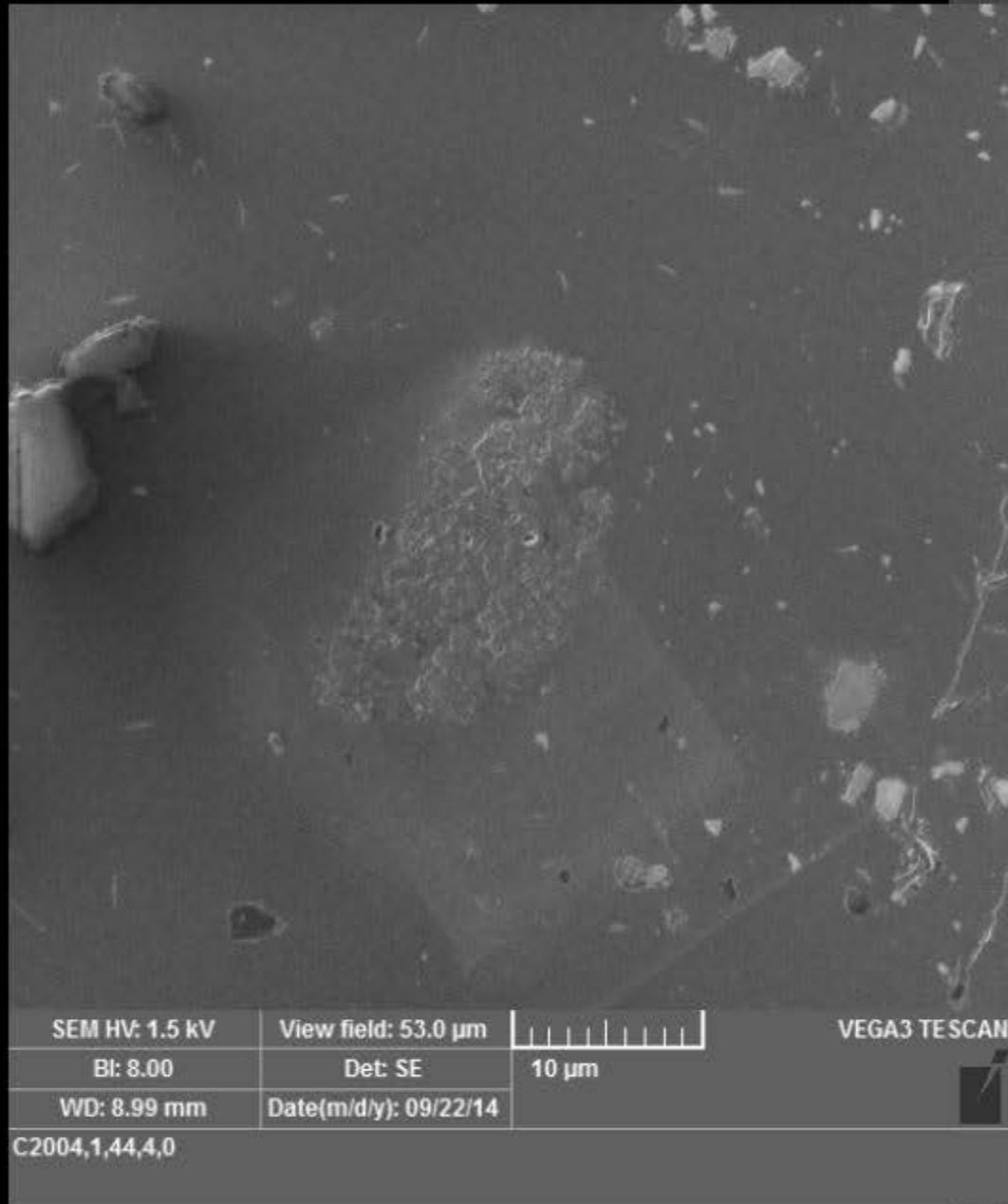
SEM HV: 1.0 kV	View field: 17.6 mm	5 mm	VEGA3 TESCAN
BI: 13.00	Det: SE		
WD: 20.00 mm	Date(m/d/y): 09/22/14		

C2004,1,44,4,0

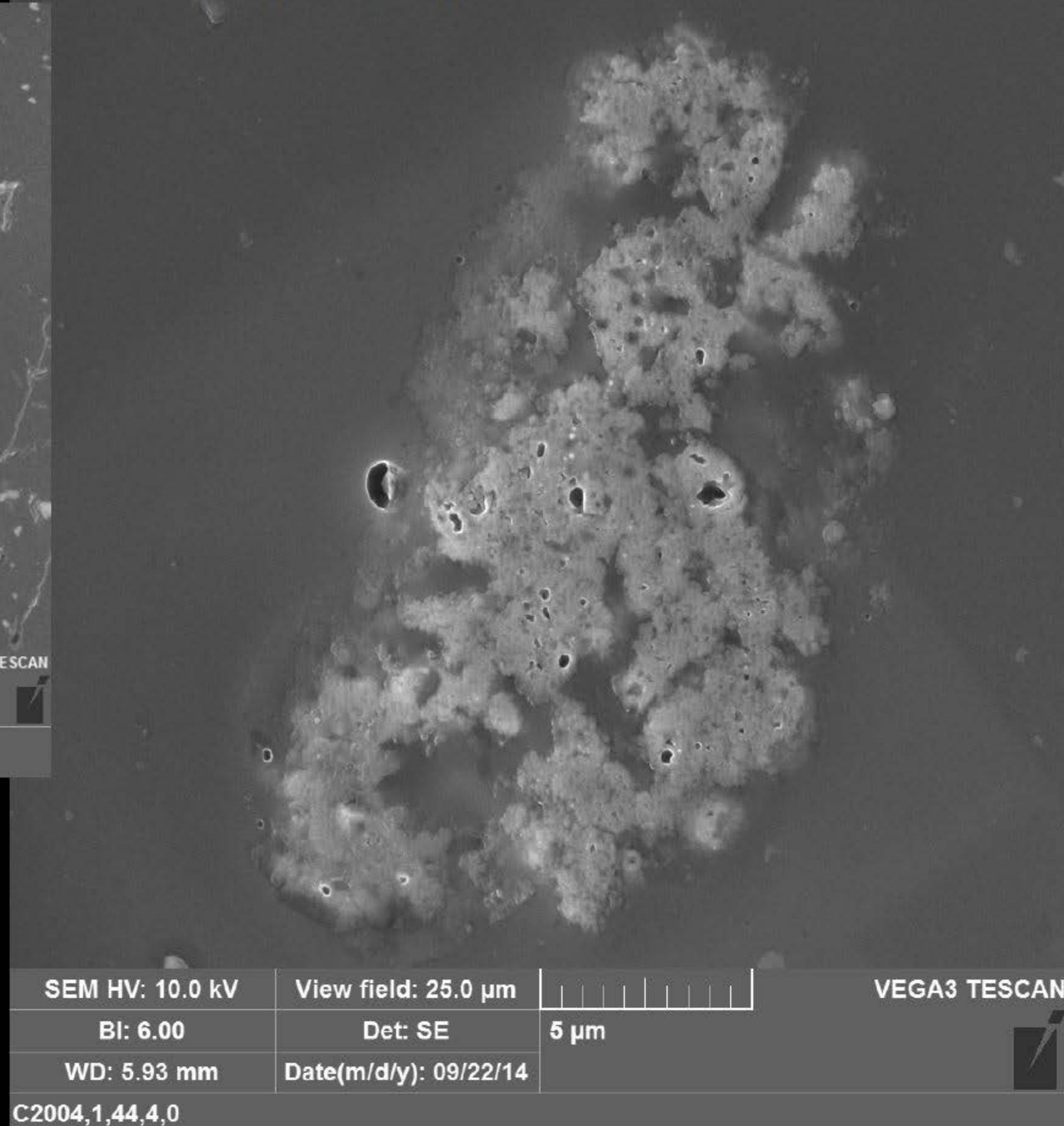


SEM HV: 1.0 kV	View field: 195 $\mu$ m	50 $\mu$ m	VEGA3 TESCAN
BI: 10.00	Det: SE		
WD: 9.01 mm	Date(m/d/y): 09/22/14		

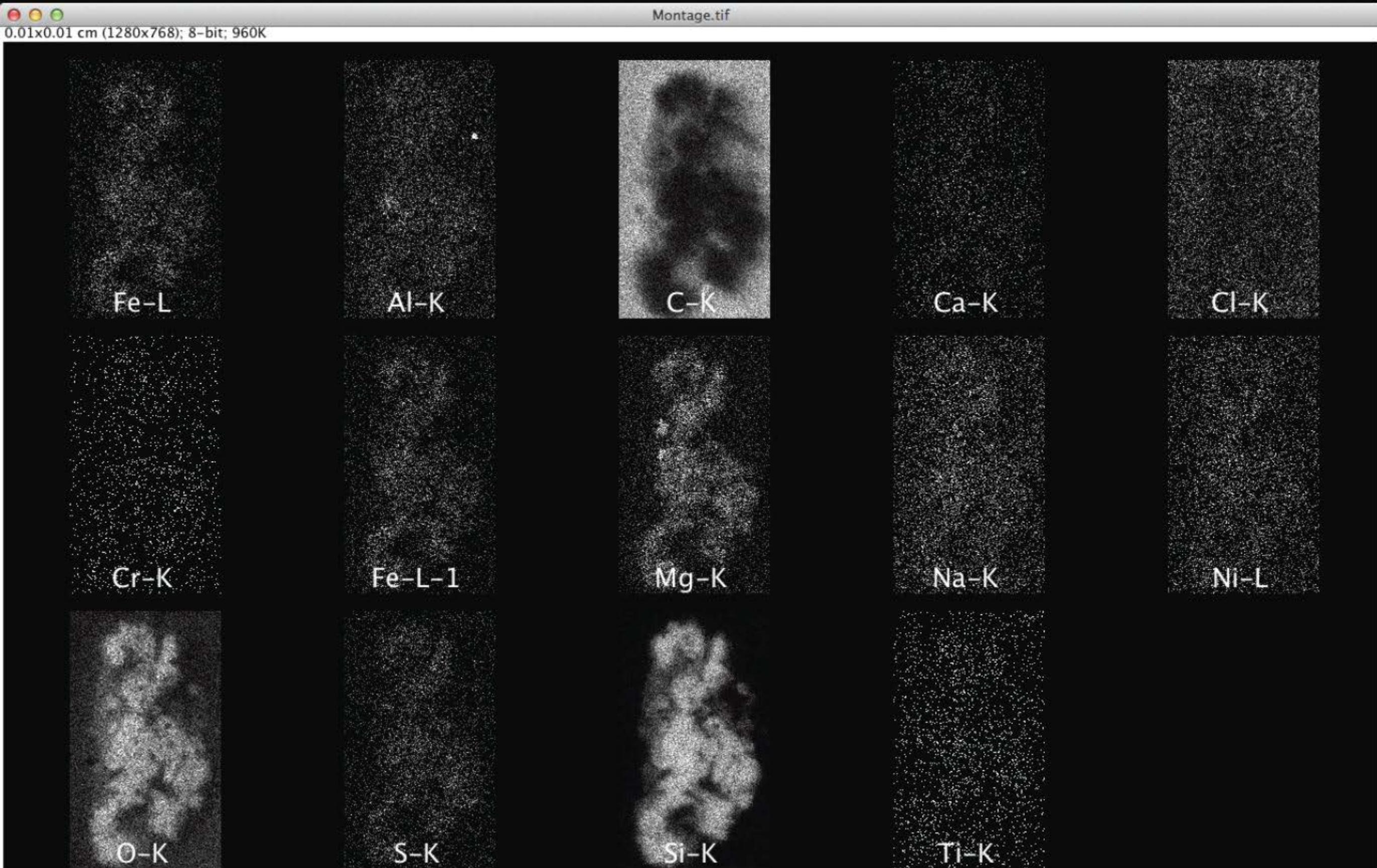
# C2004,1,44,4,0



Oh my! Beautiful bulb material.

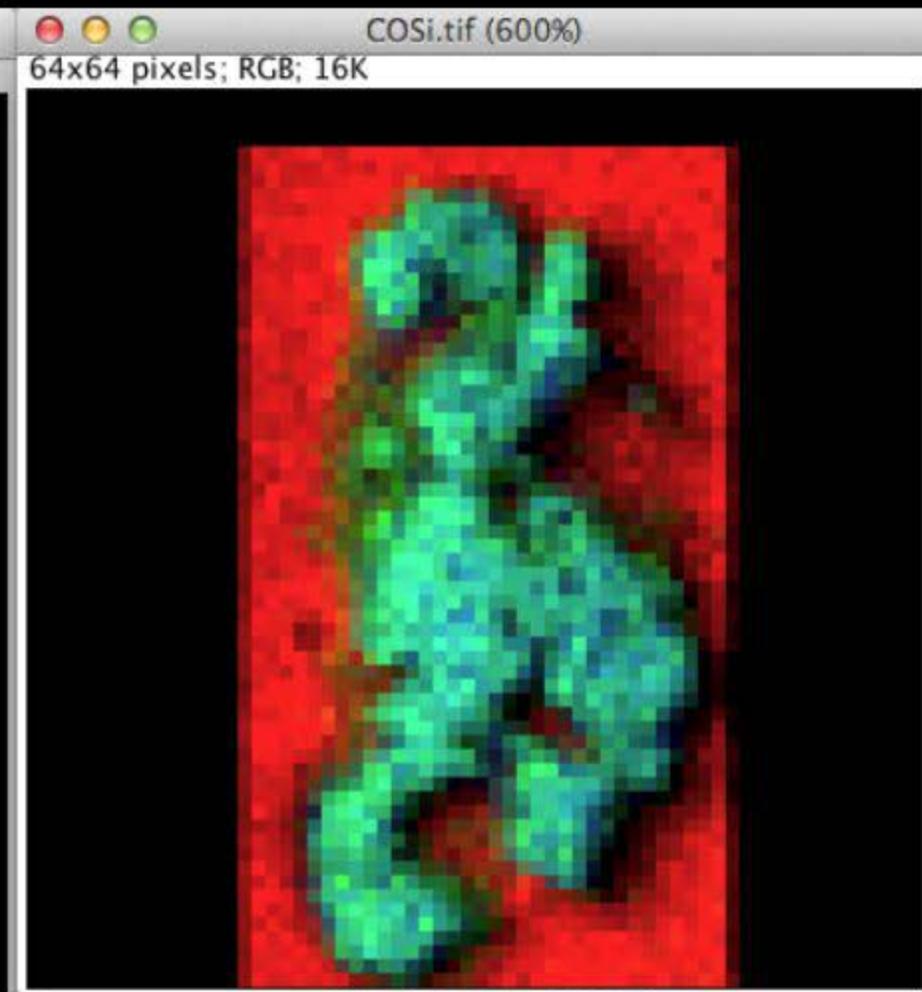
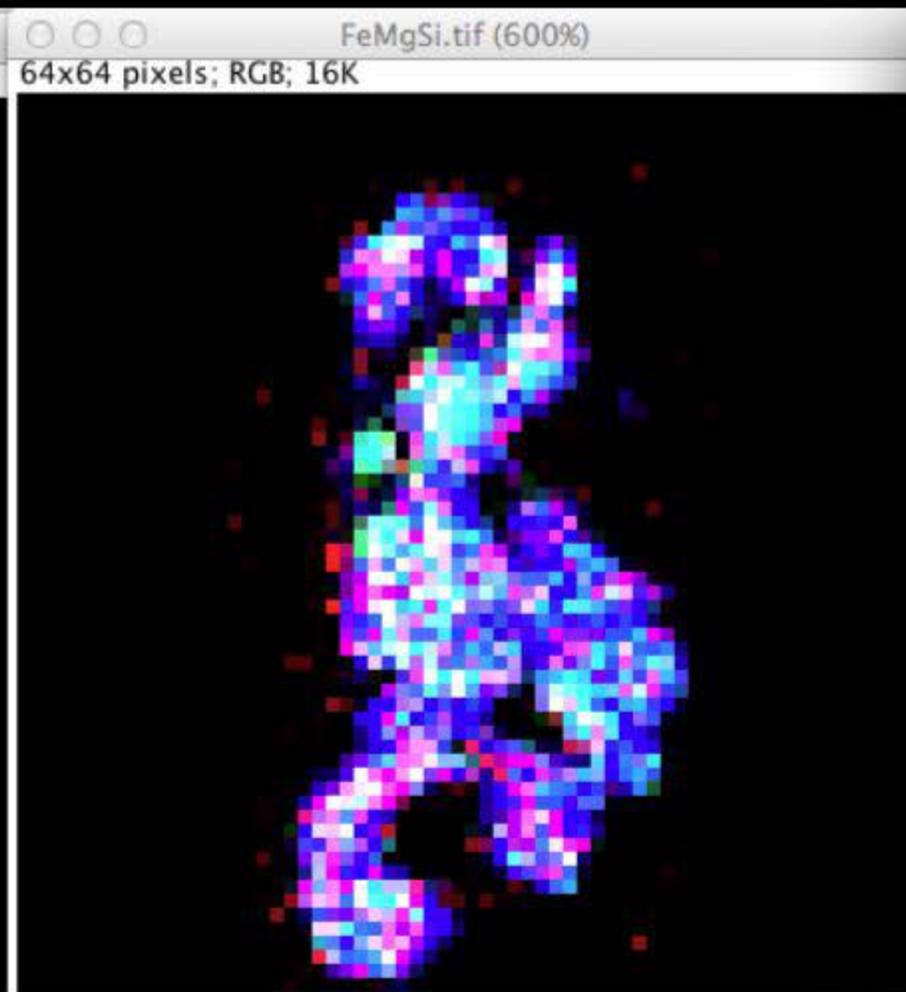
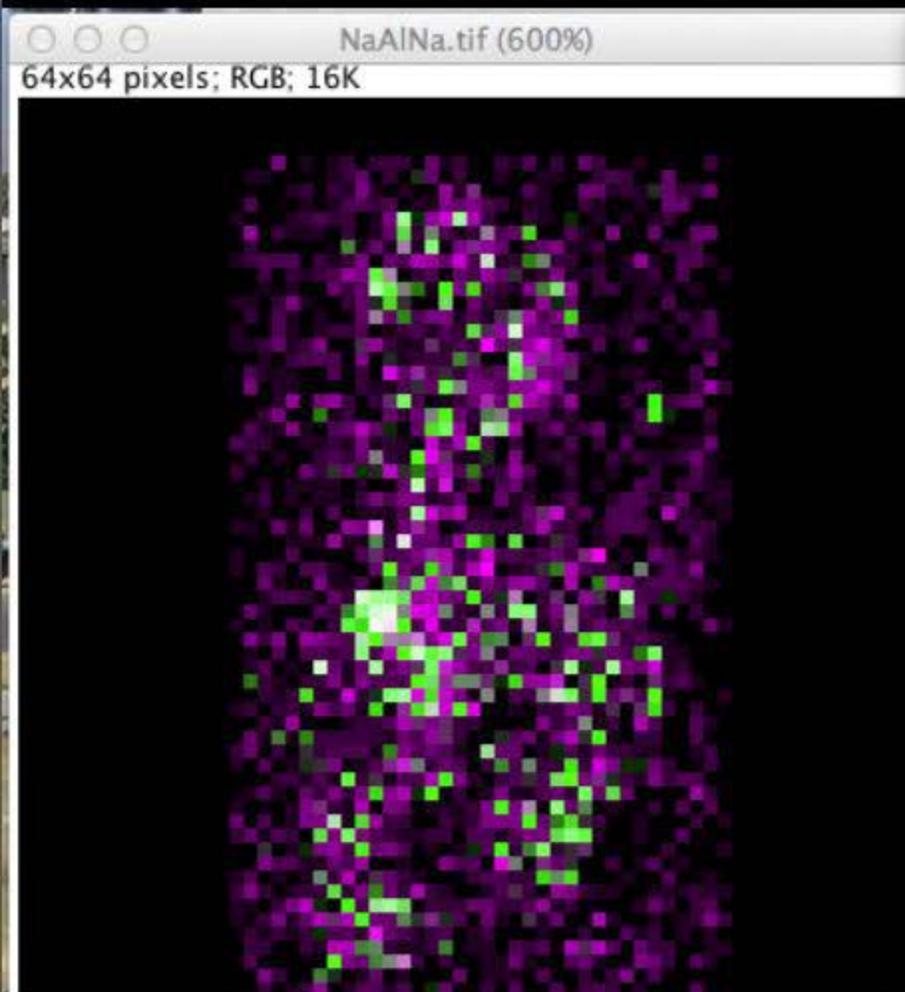


# C2004,1,44,4,0, EDS

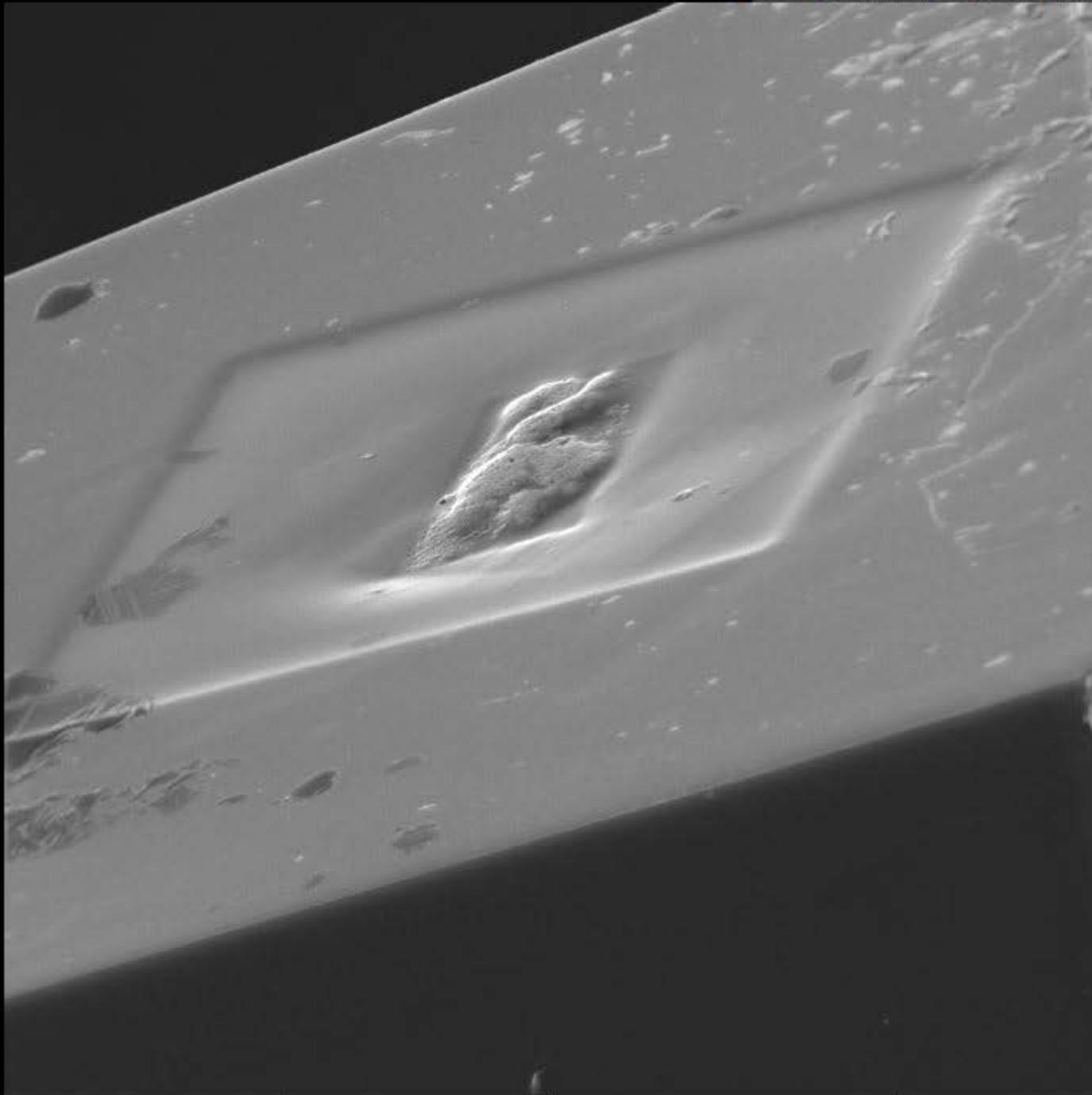


Notice shadow grains showing up in Mg and Al, and actually Na (barely).

# C2004, 1, 44, 4, 0, EDS

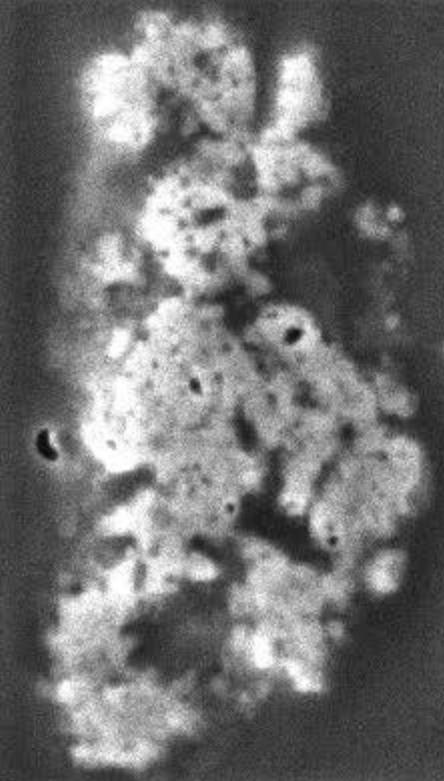


# C2004,1,44,4,0 - After EDS



SEM HV: 10.0 kV	View field: 64.2 $\mu\text{m}$	VEGA3 TESCAN
BI: 9.00	Det: SE	20 $\mu\text{m}$
WD: 12.88 mm	Date(m/d/y): 09/22/14	

C2004,1,44,4,0 - after EDS

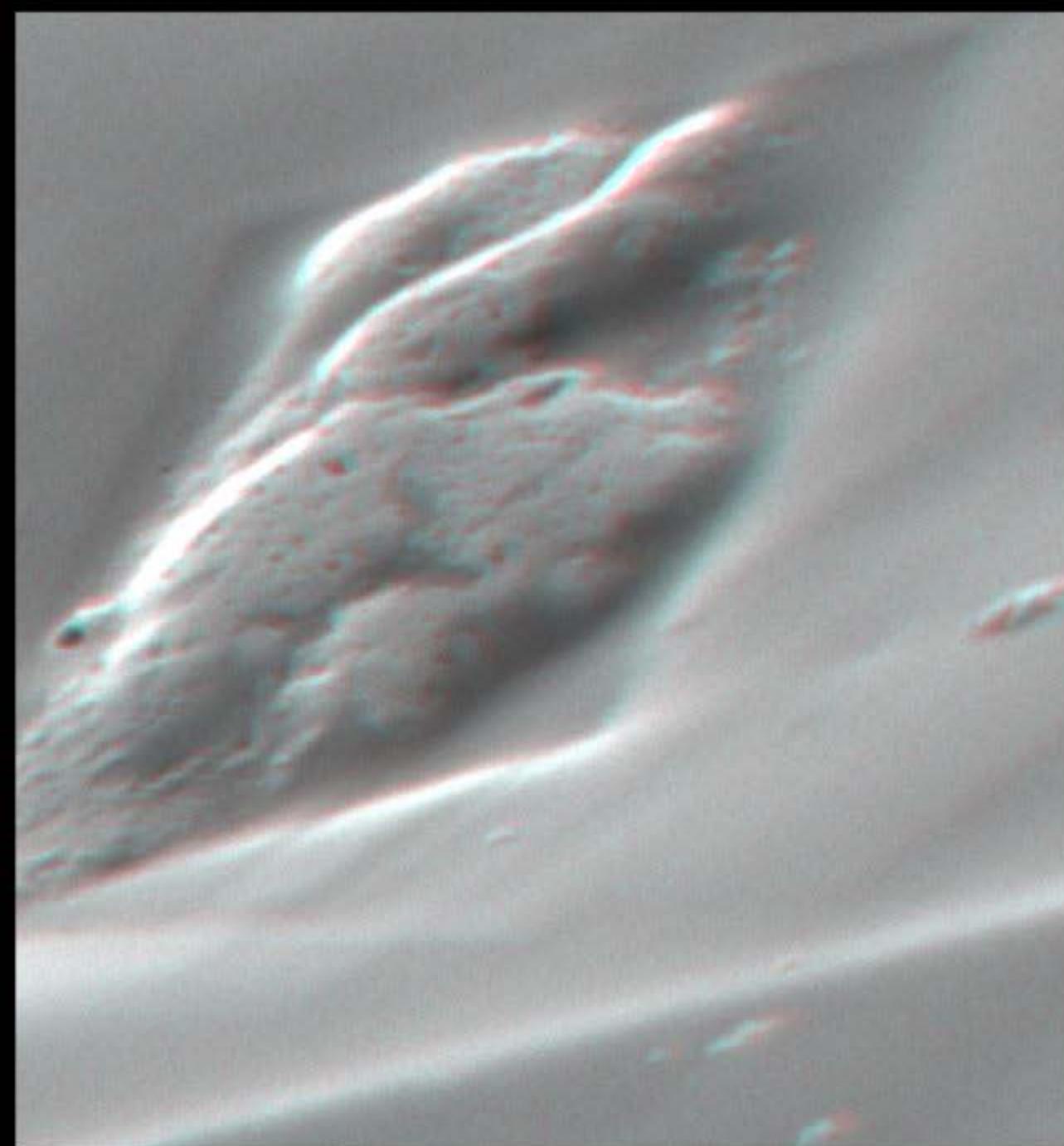
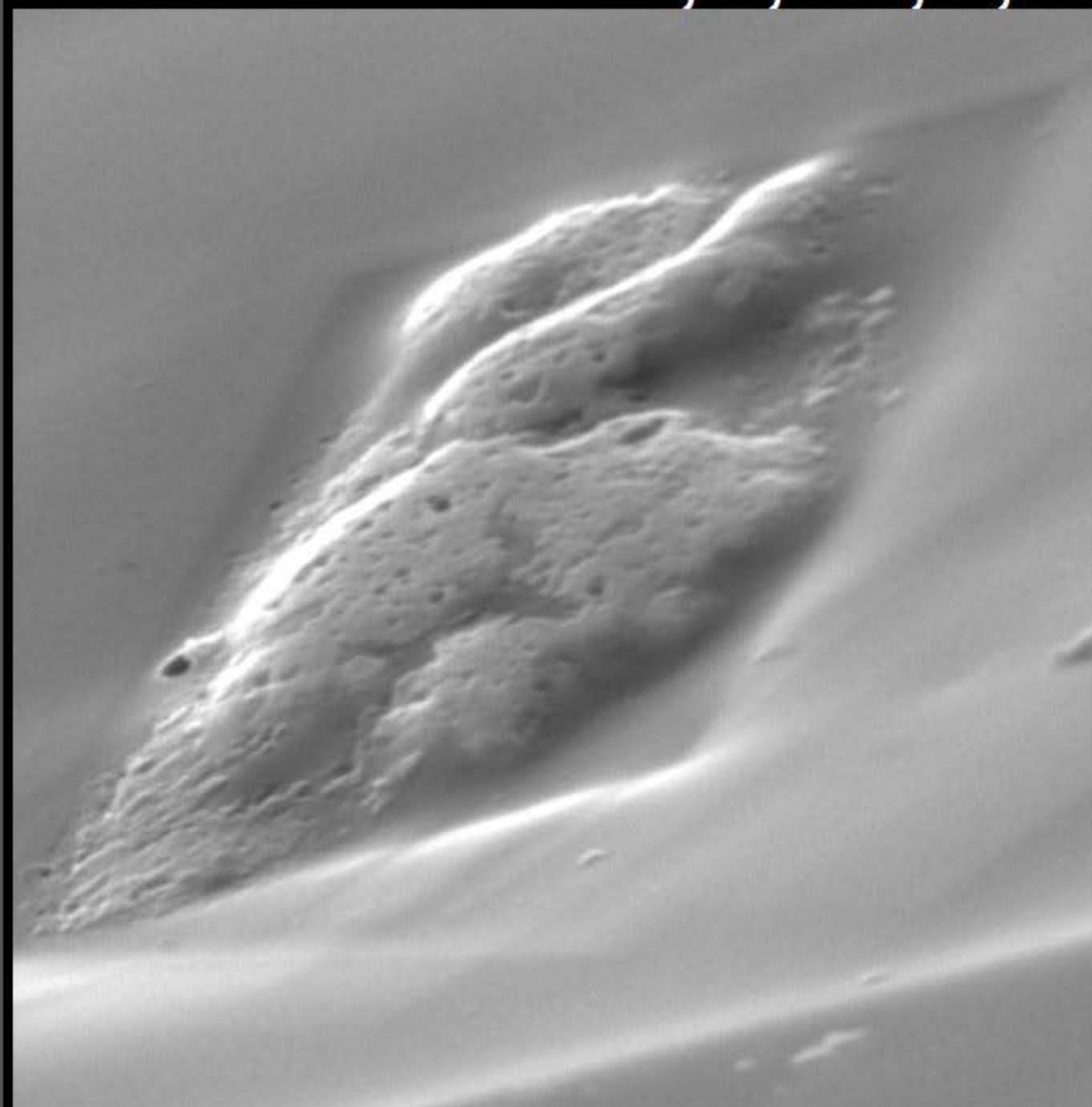


SEM HV: 10.0 kV	View field: 50.0 $\mu\text{m}$	VEGA3 TESCAN
BI: 12.00	Det: SE	10 $\mu\text{m}$
WD: 13.25 mm	Date(m/d/y): 09/22/14	

C2004,1,44,4,0 - after EDS

Some epoxy shrinkage from the EDS.

# C2004,1,44,4,0 - After EDS - 3D



SEM HV: 10.0 kV

View field: 16.9  $\mu\text{m}$

VEGA3 TESCAN

SEM HV: 10.0 kV

View field: 16.9  $\mu\text{m}$

VEGA3 TESCAN

Bl: 9.00

Det: SE

5  $\mu\text{m}$

Bl: 9.00

Det: SE

5  $\mu\text{m}$

WD: 12.88 mm

Date(m/d/y): 09/22/14

WD: 12.88 mm

Date(m/d/y): 09/22/14

C2004,1,44,4,0 - after EDS tilted 70 deg, 3D 0.49 deg

C2004,1,44,4,0 - after EDS tilted 70 deg, 3D 0.49 deg

Estimated topography  $\leq 1$  micron.