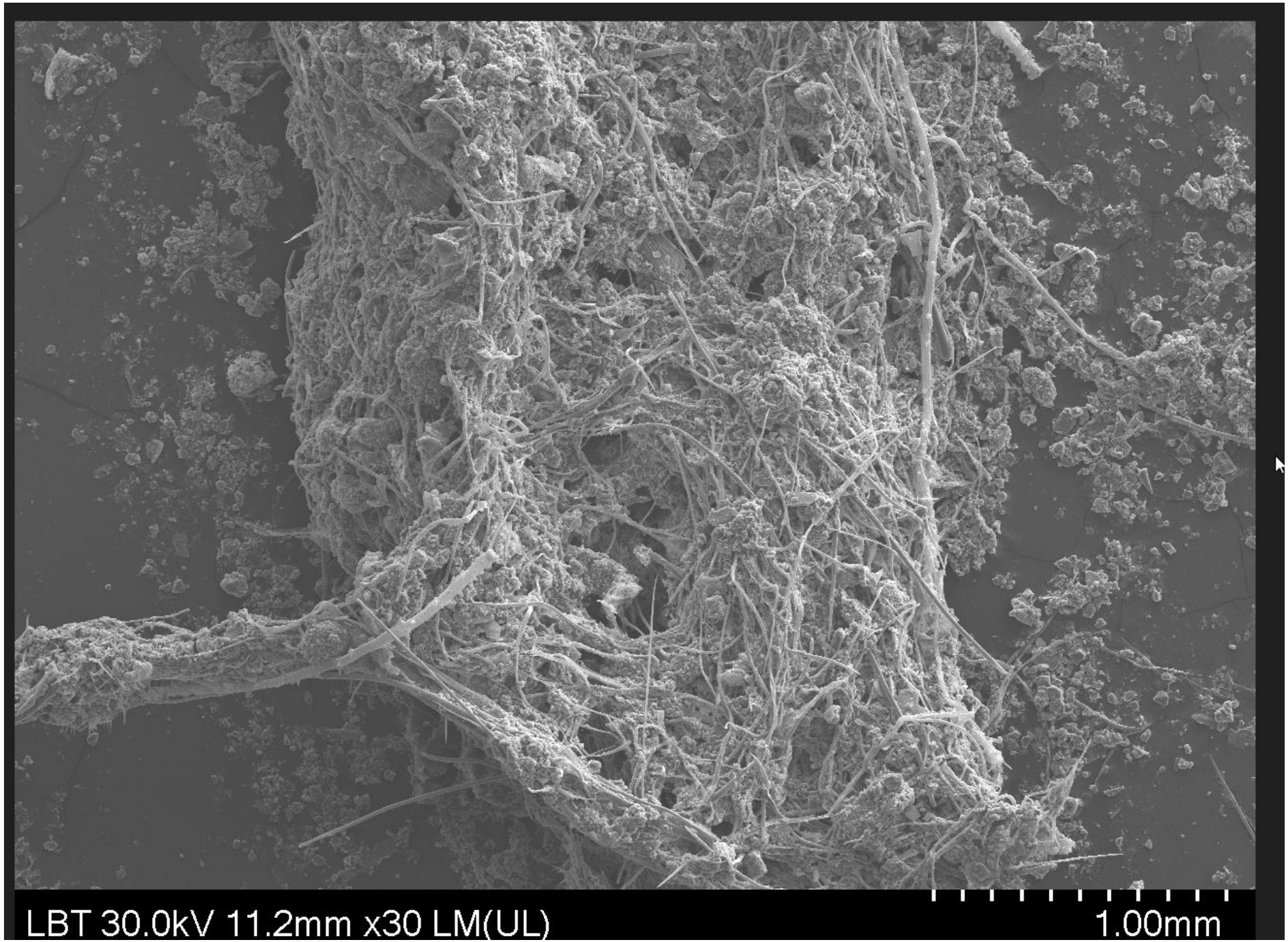
PERICOLUL DIN AER - NANOTUBULI DE CARBURA DE SILICIU

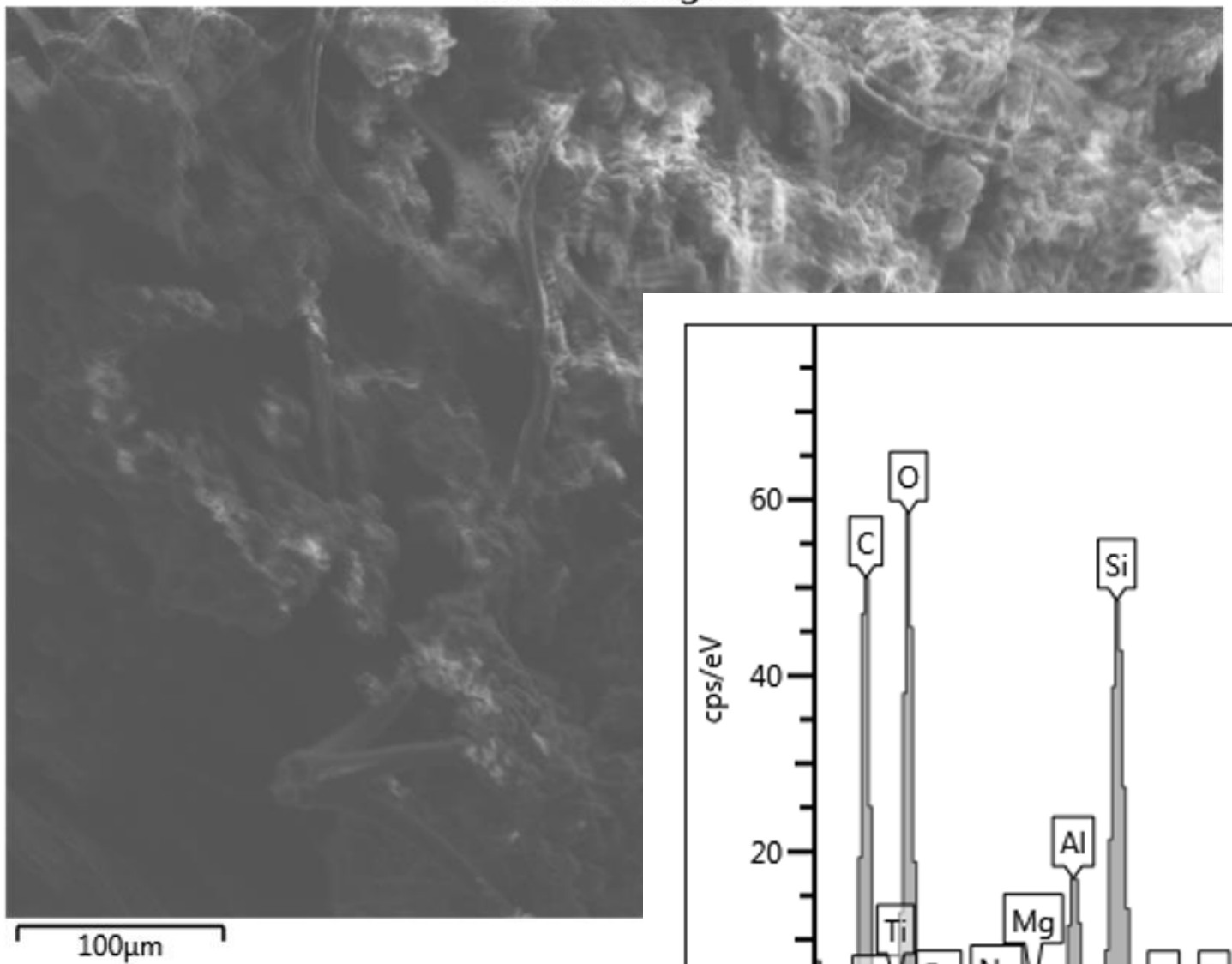
Dr. Geanina Hagimă

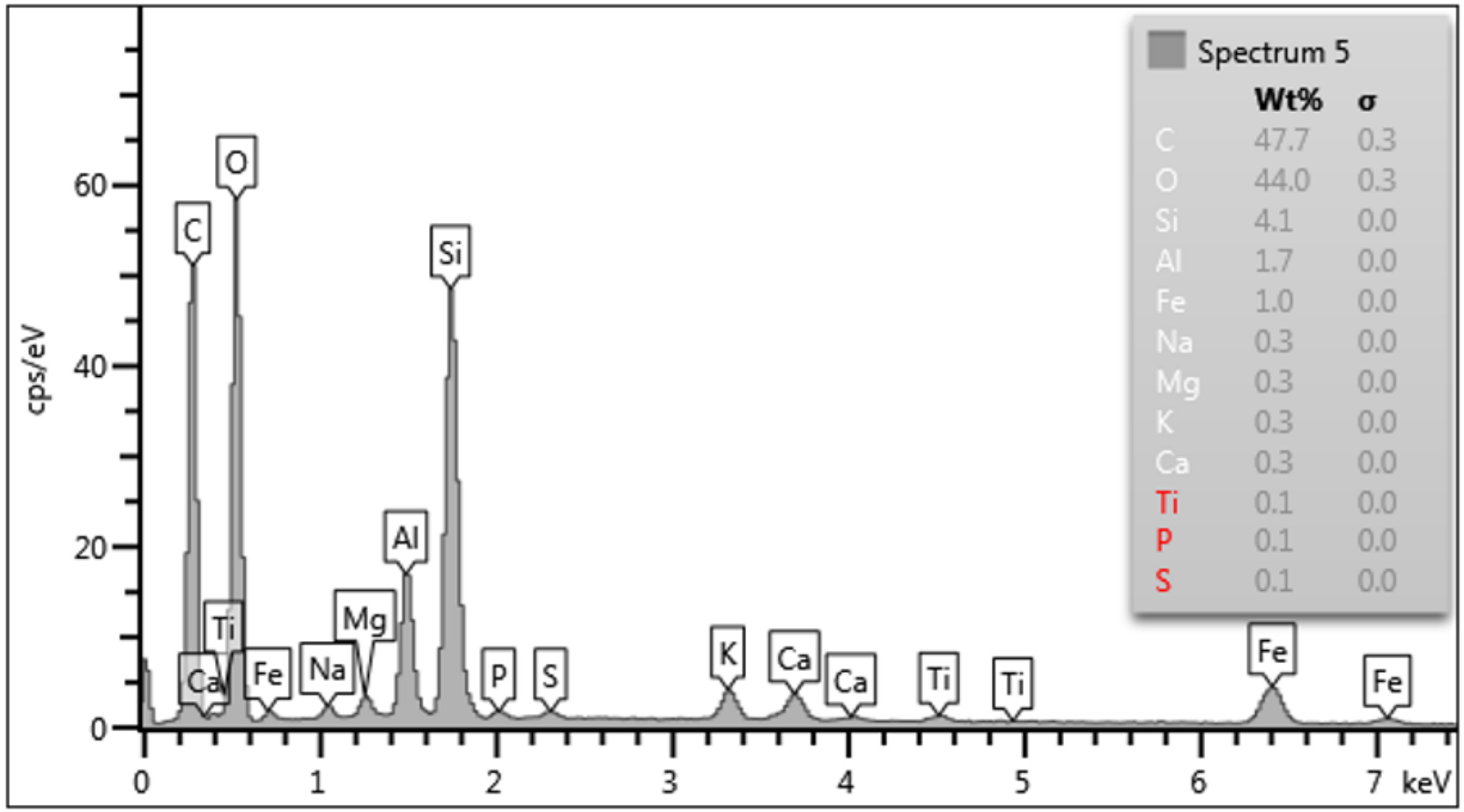
APĂ DE PLOAIE CU SEDIMENT MAGNETIZABIL INTEGRAL

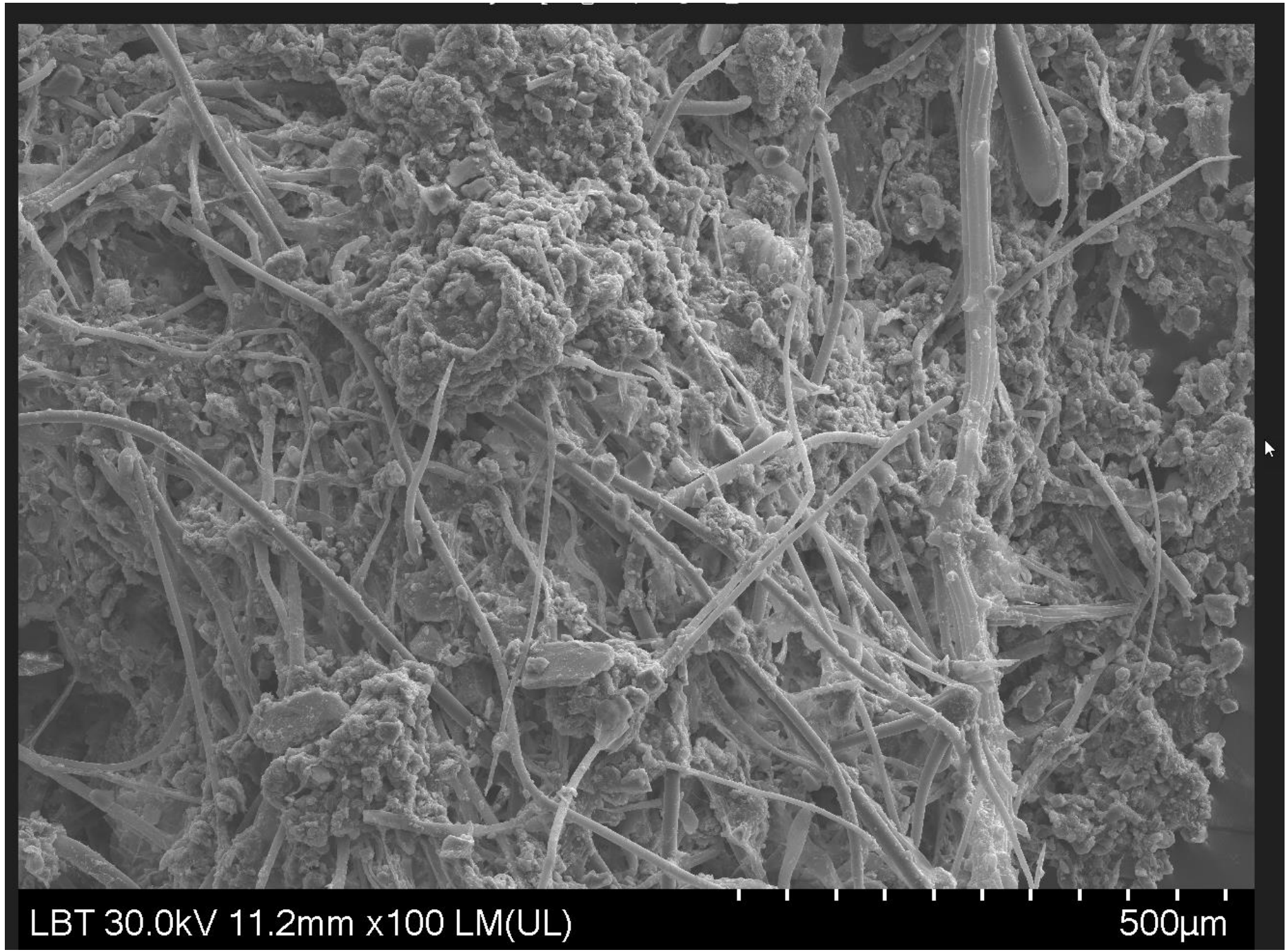
ANALIZA CU MICROSCOPUL ELECTRONIC A SEDIMENTULUI DIN APA DE PLOAIE

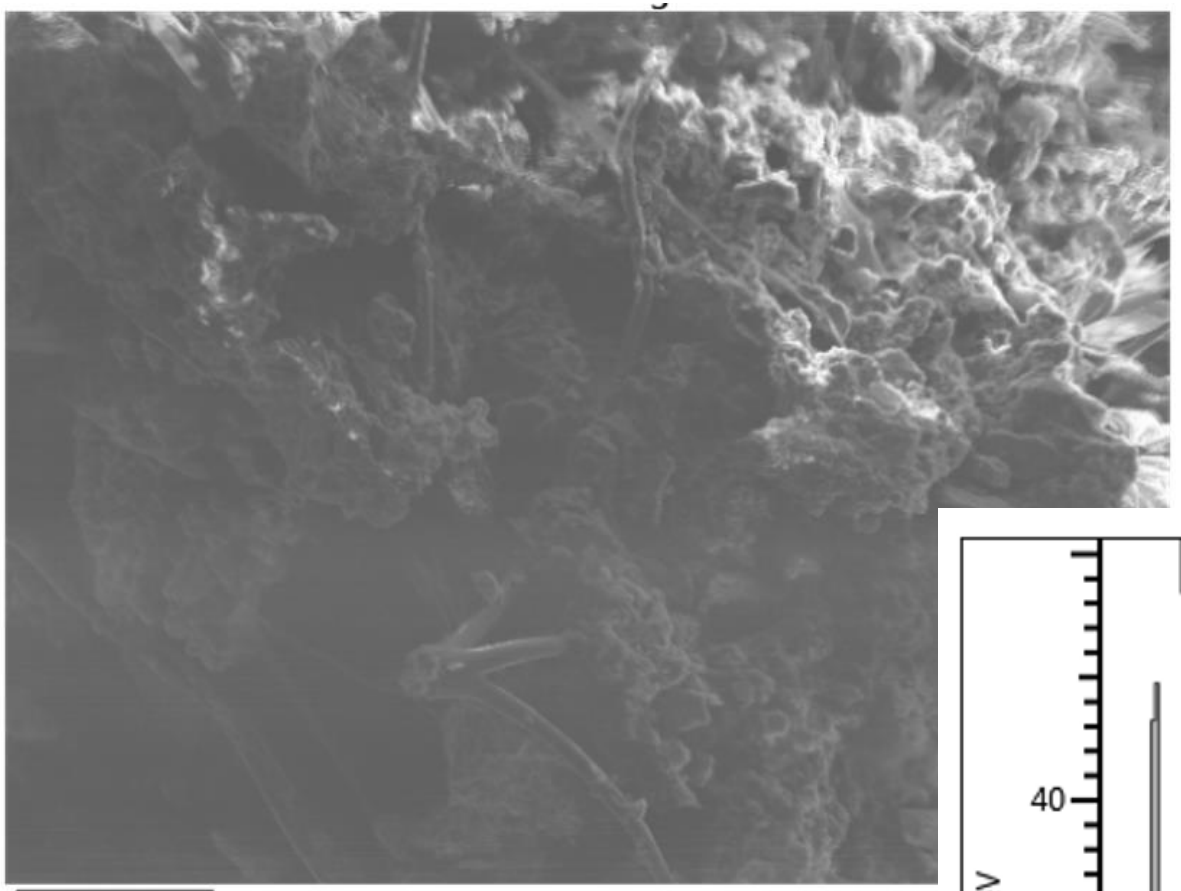

LBT 30.0kV 11.2mm x30 LM(UL)
1.00mm

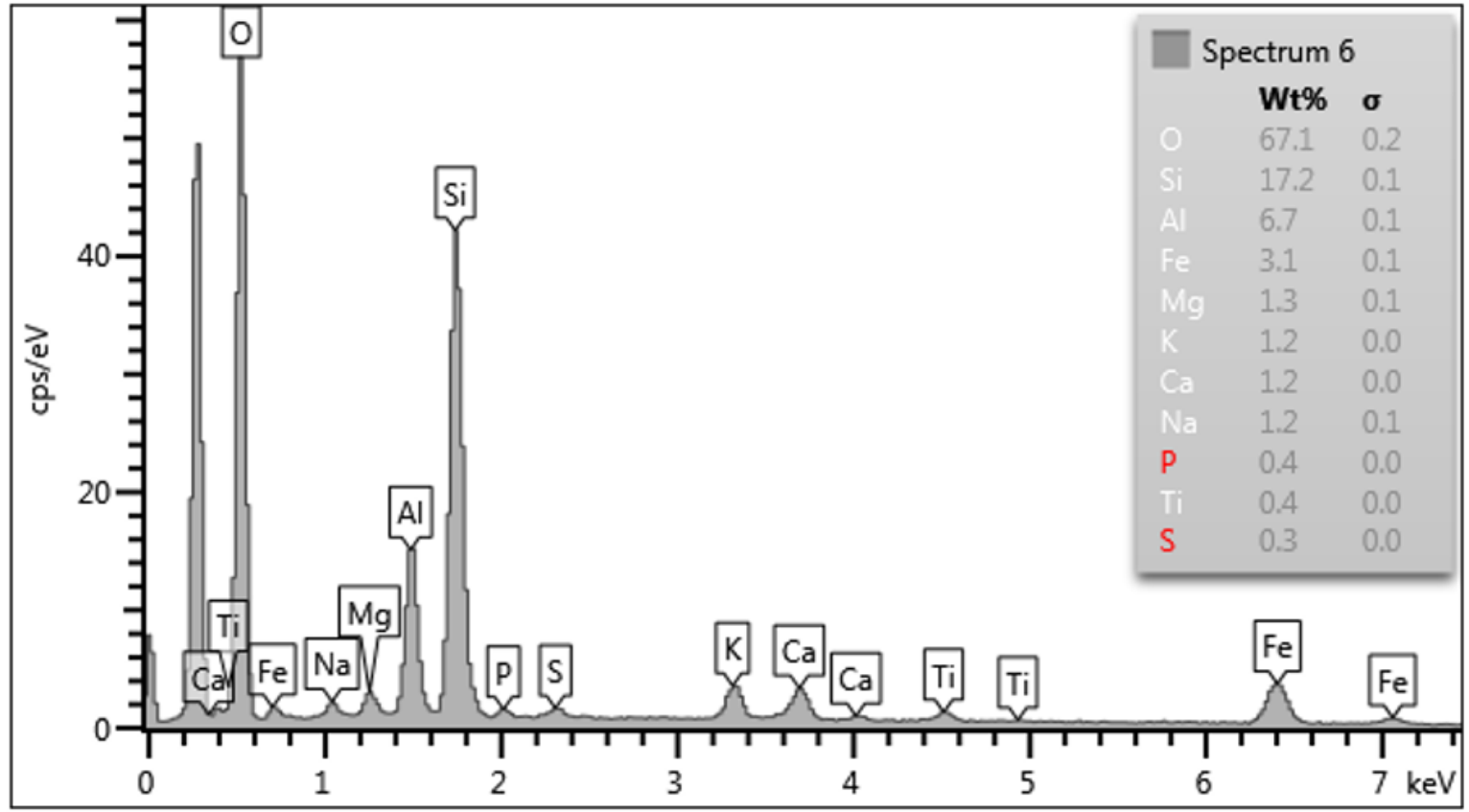
Electron Image 8

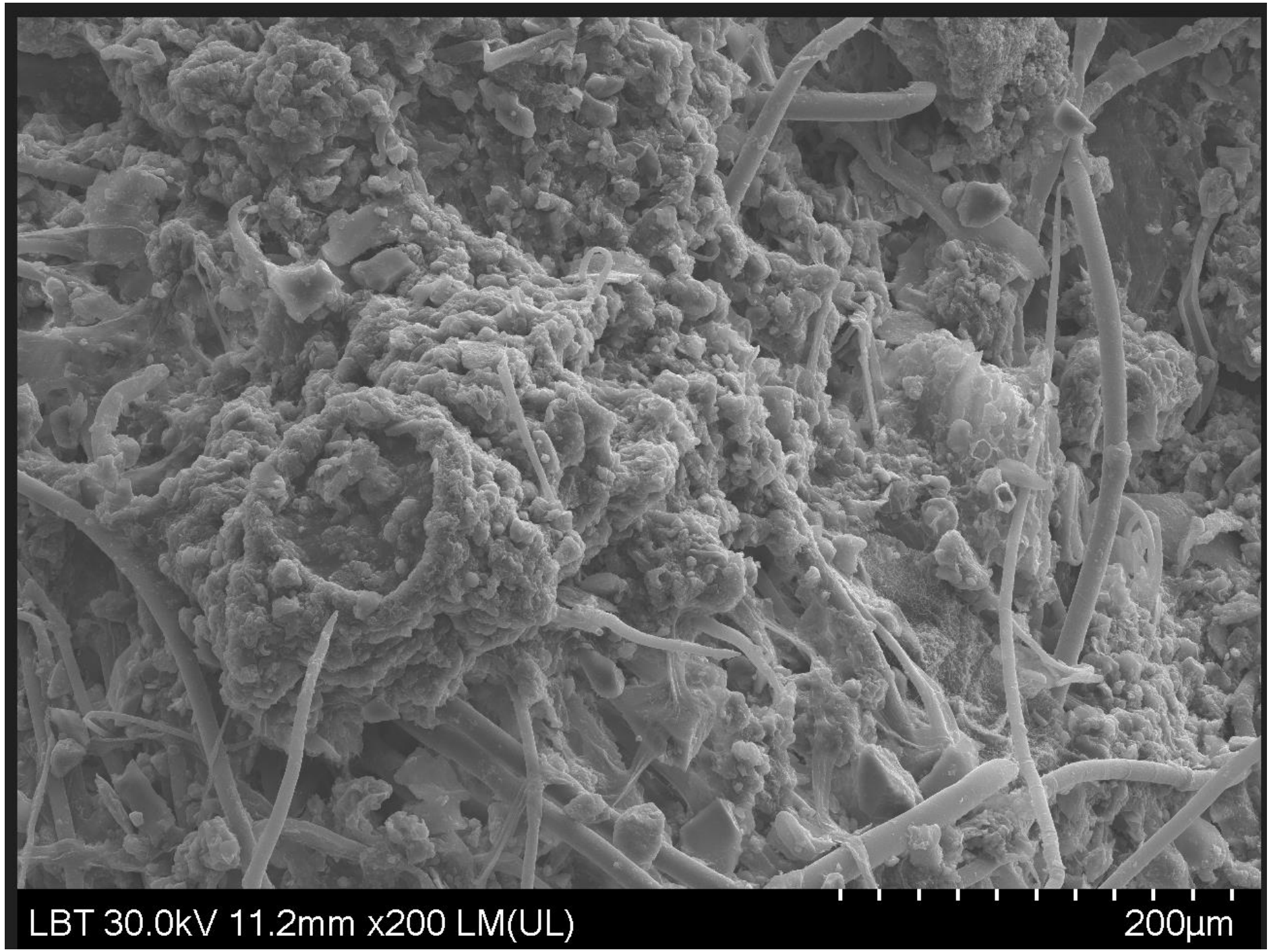


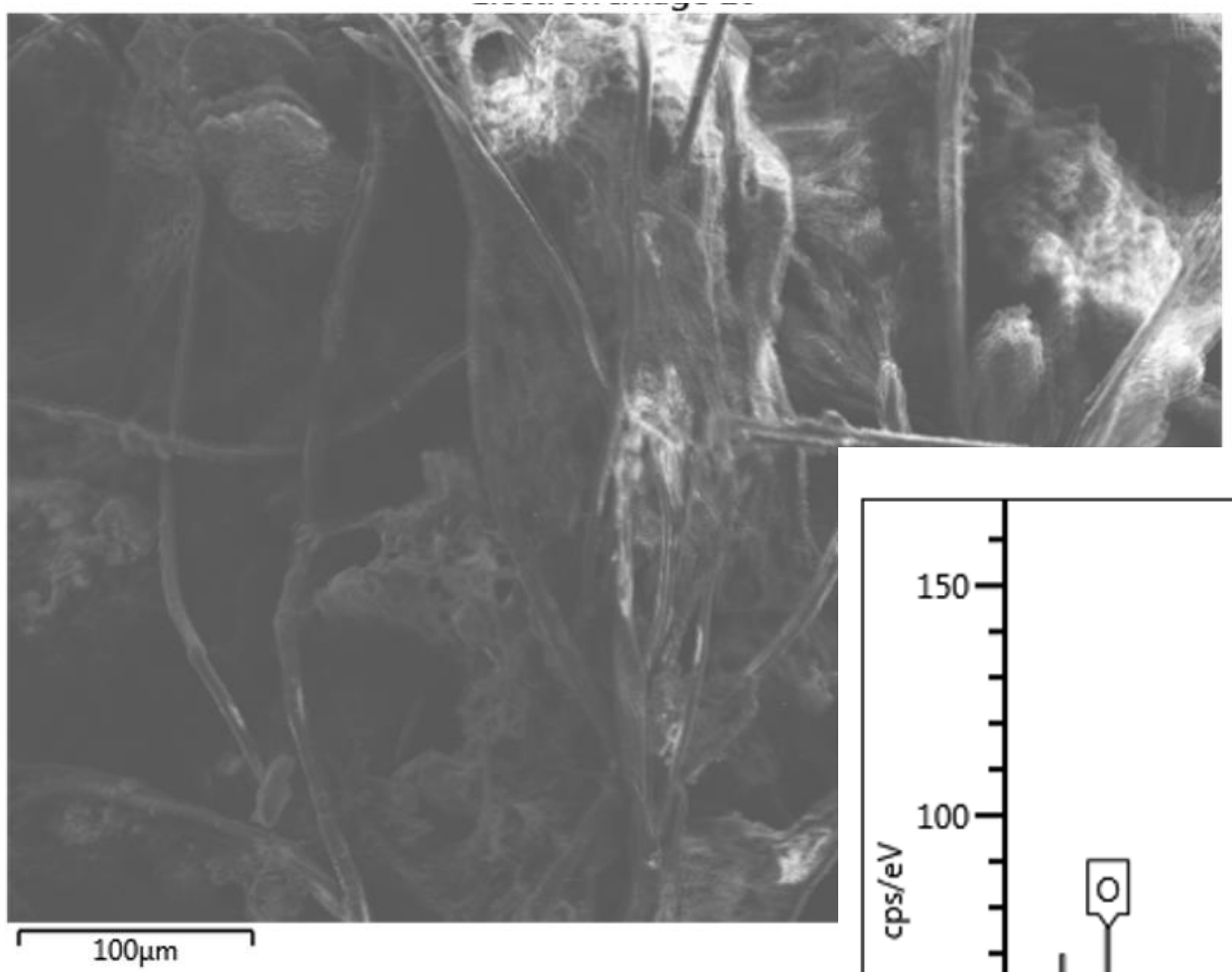


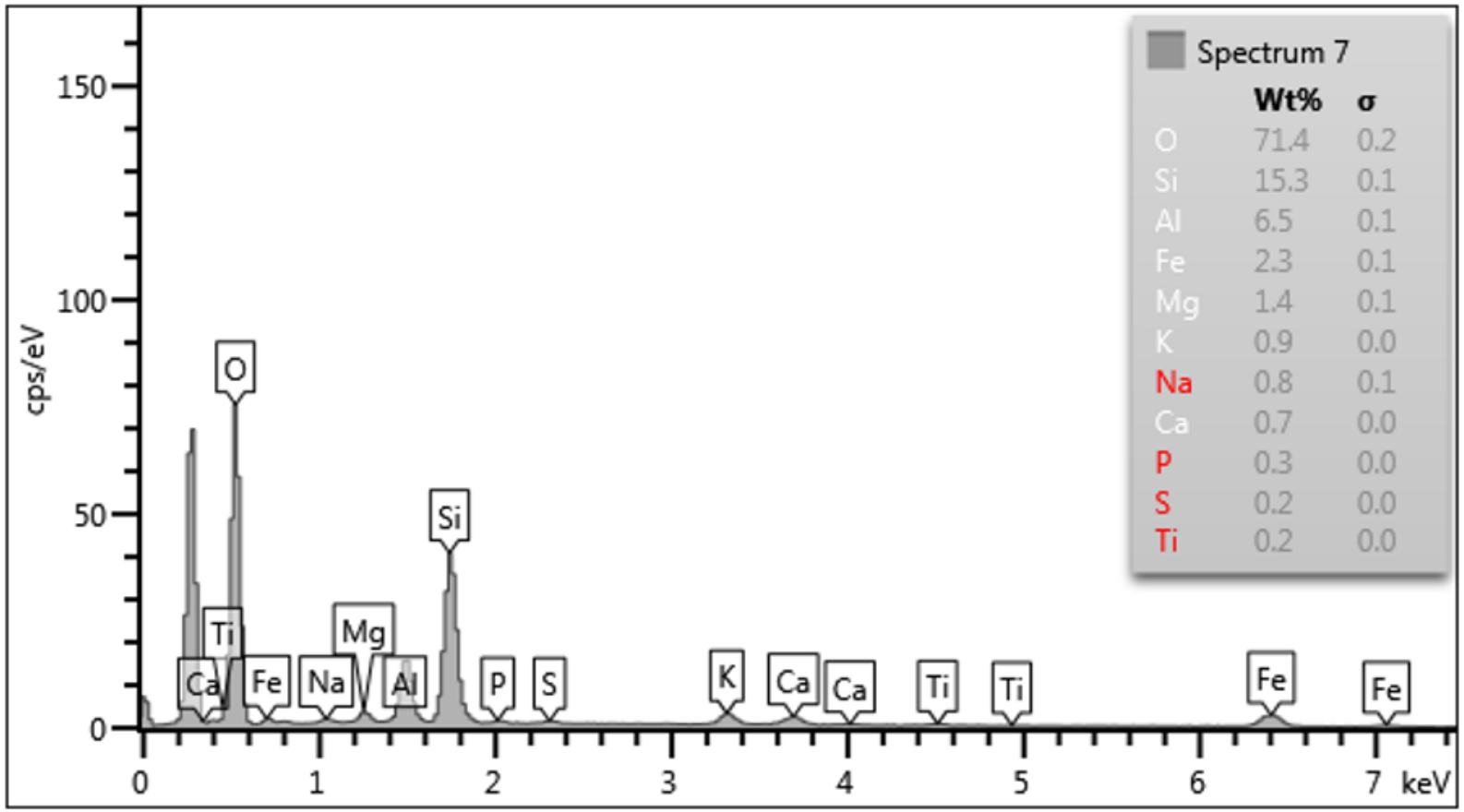

LBT 30.0kV 11.2mm x100 LM(UL)
500µm

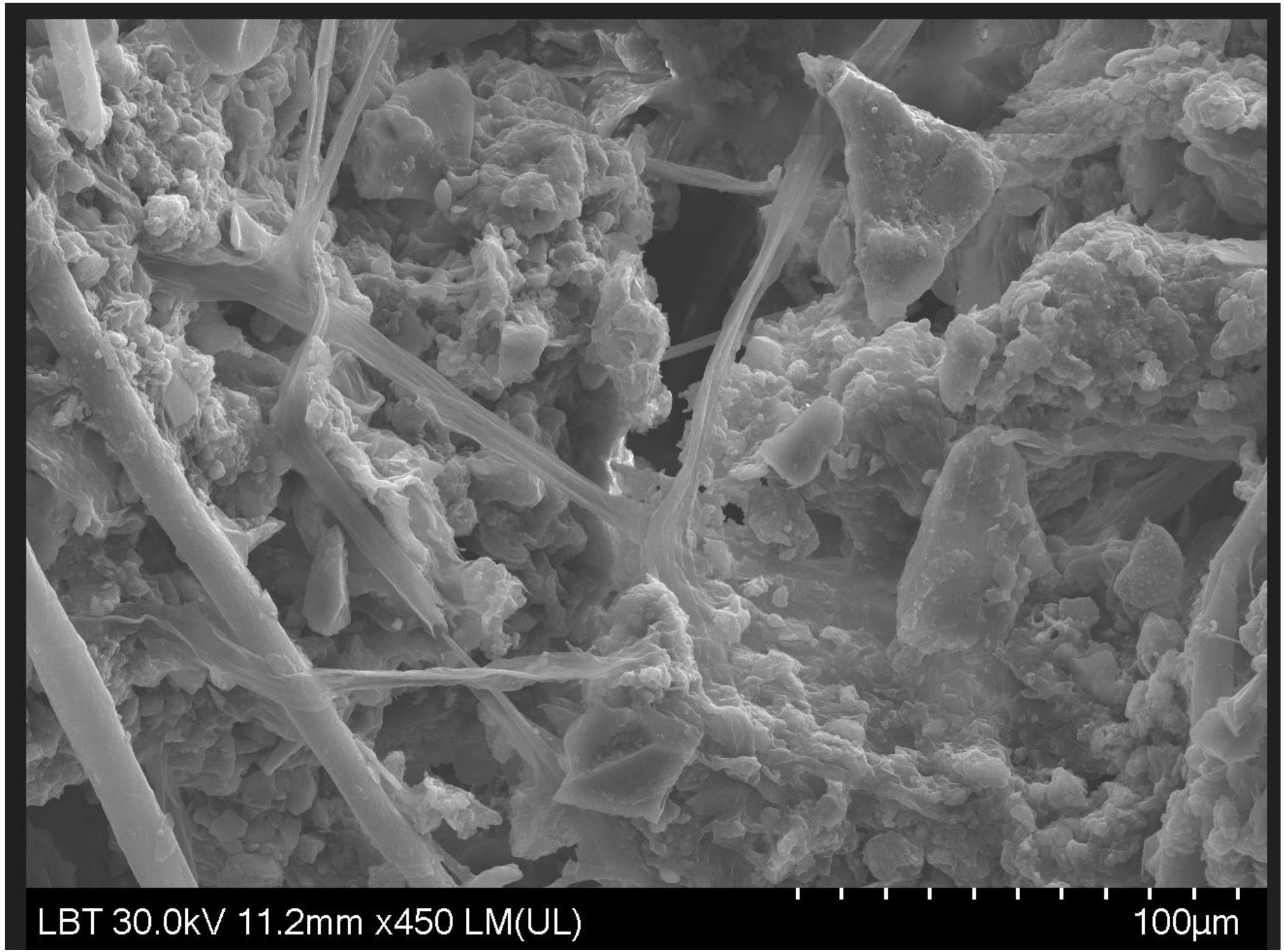

100µm

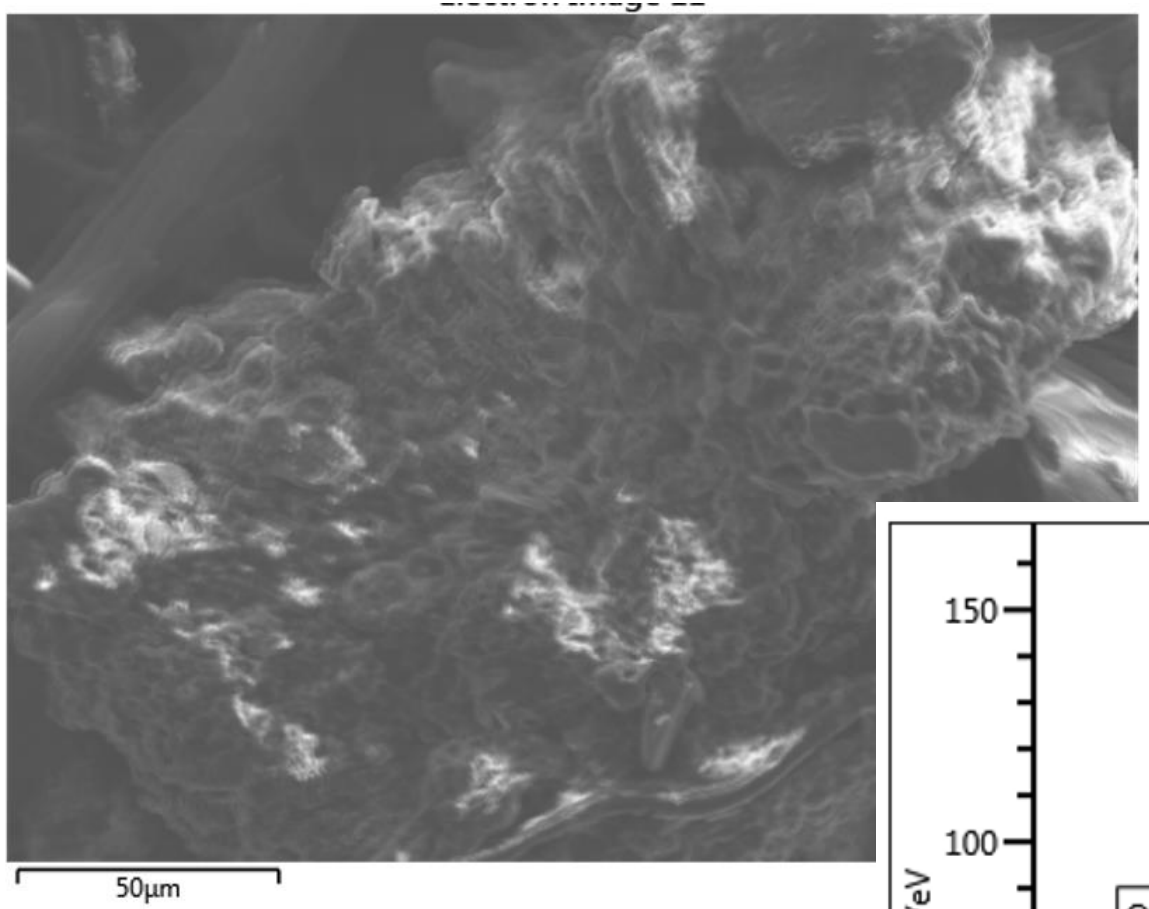

Spectrum 6
Wt% σ
O 67.1 0.2
Si 17.2 0.1
Al 6.7 0.1
Fe 3.1 0.1
Mg 1.3 0.1
K 1.2 0.0
Ca 1.2 0.0
Na 1.2 0.1
P 0.4 0.0
Ti 0.4 0.0
S 0.3 0.0
cps/eV
0
20
40
0 1 2 3 4 5 6 7 keV
O
Si
Al
Mg
Ti
Ca
Fe
Na
P
S
K
Ca
Ca
Ti
Ti
Fe
Fe

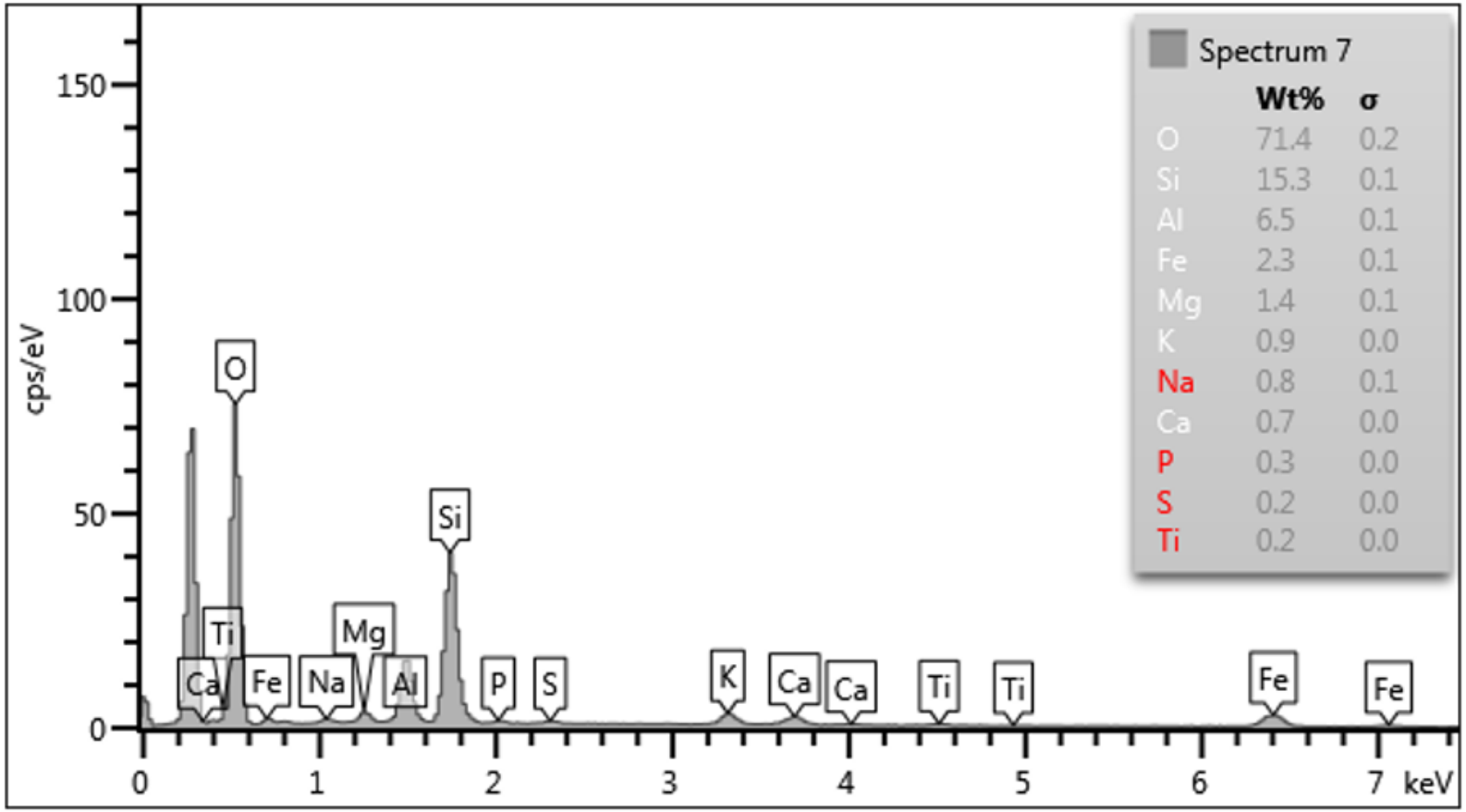

LBT 30.0kV 11.2mm x200 LM(UL)
200µm

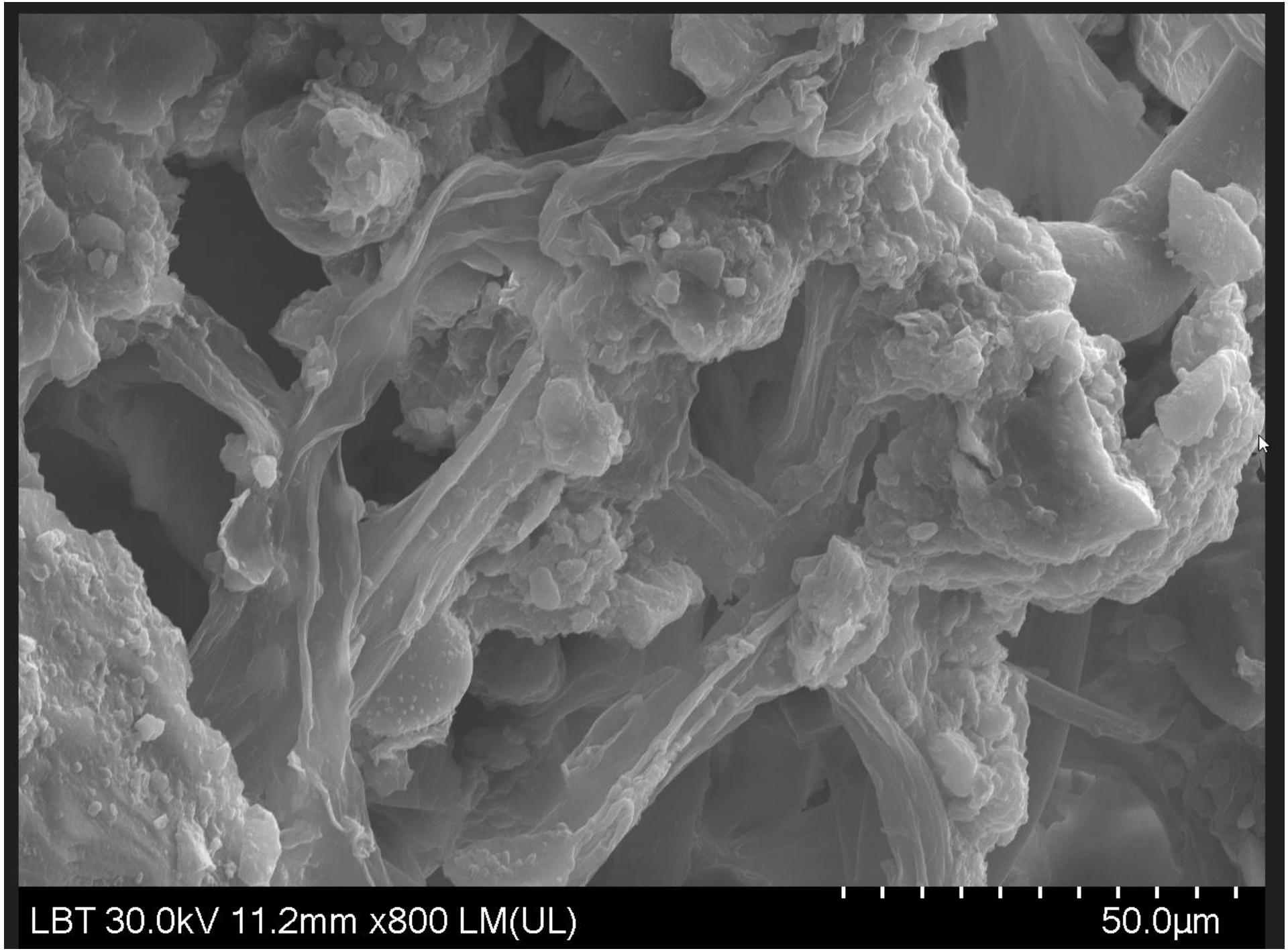

100µm

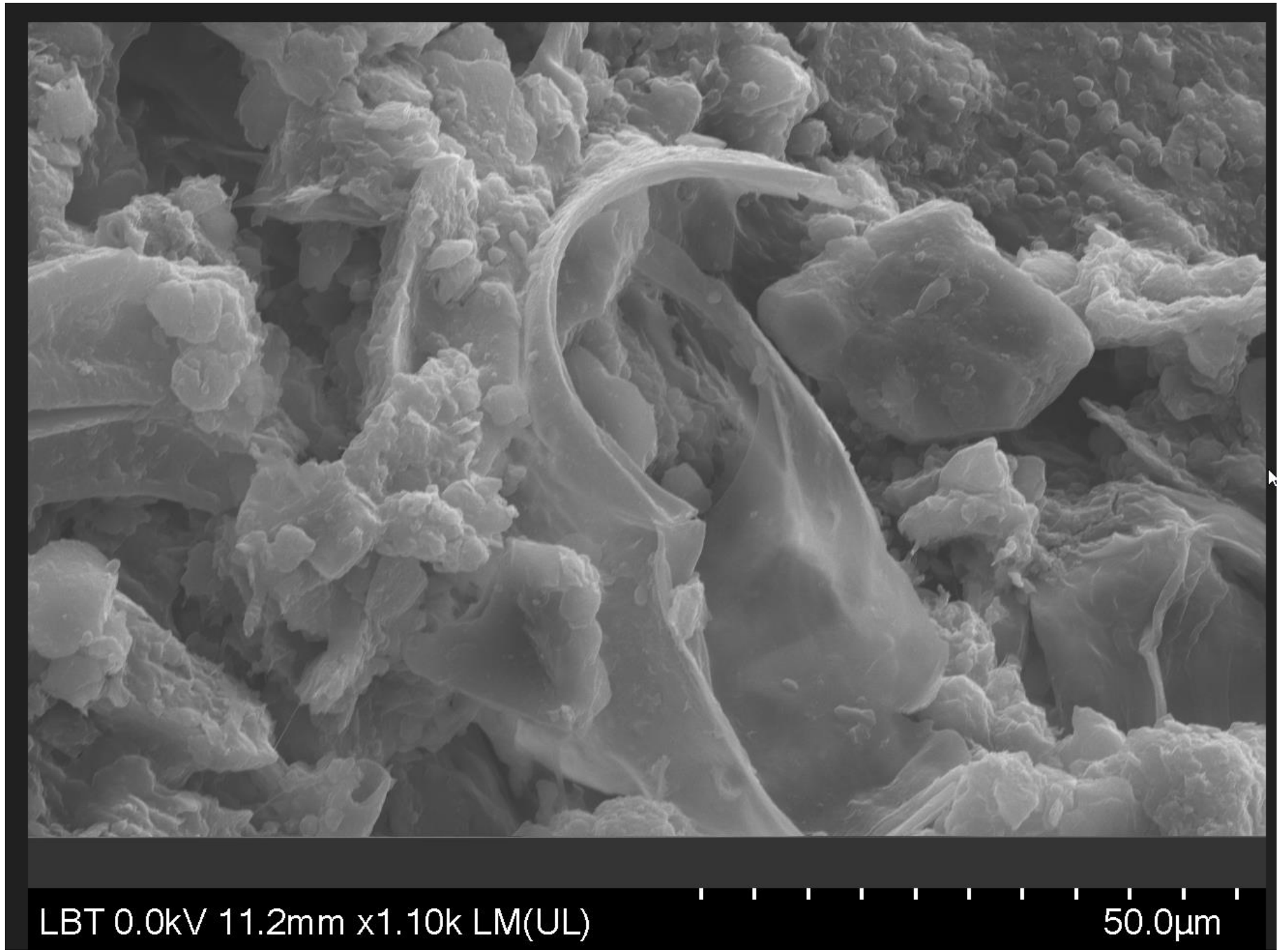

Spectrum 7
Wt% σ
O 71.4 0.2
Si 15.3 0.1
Al 6.5 0.1
Fe 2.3 0.1
Mg 1.4 0.1
K 0.9 0.0
Na 0.8 0.1
Ca 0.7 0.0
P 0.3 0.0
S 0.2 0.0
Ti 0.2 0.0
cps/eV
150
100
50
0
0 1 2 3 4 5 6 7 keV
O
Si
Mg
Ti
Ca
Fe
Na
Al
P
S
K
Ca
Ca
Ti
Ti
Fe
Fe

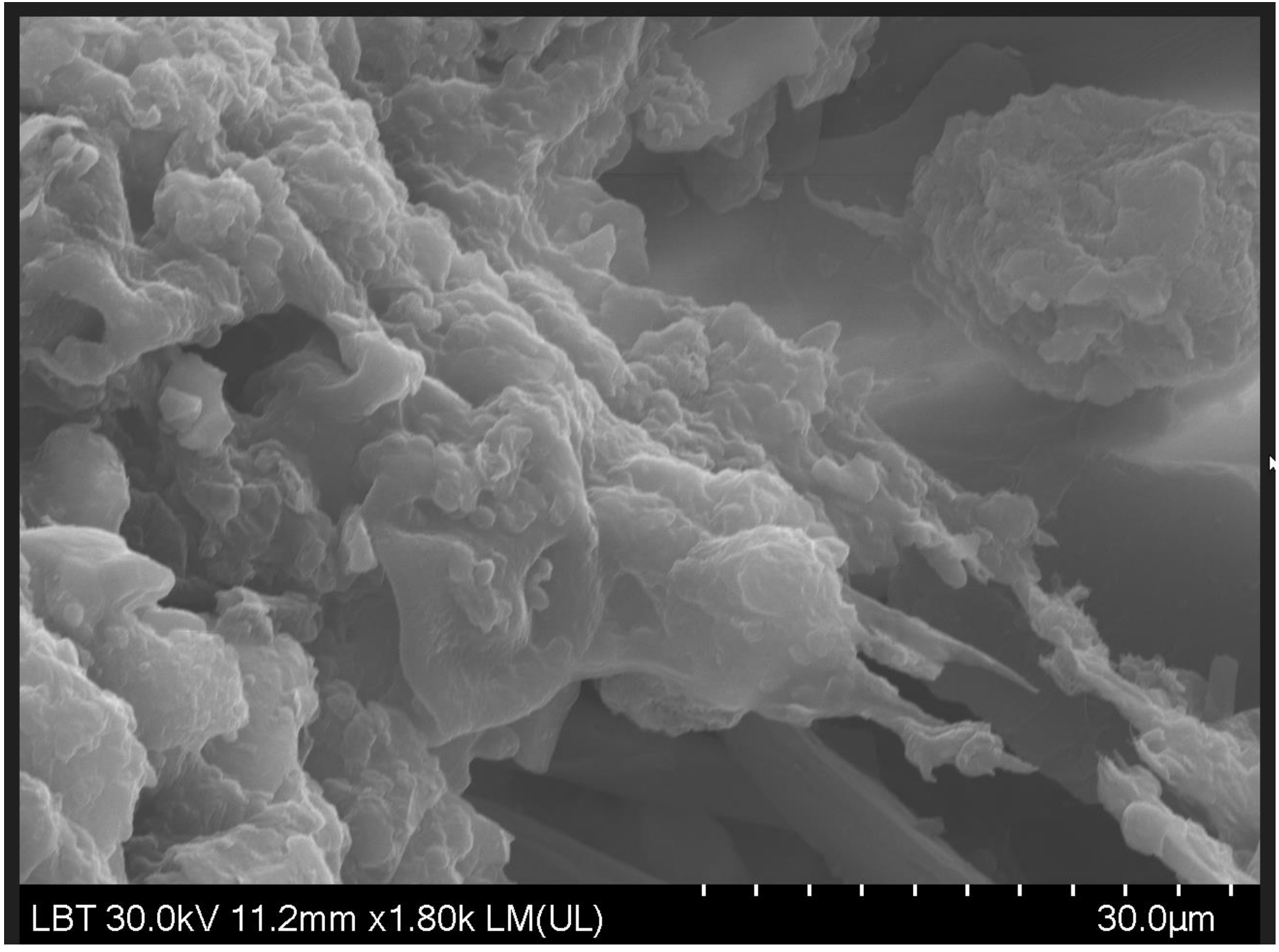

LBT 30.0kV 11.2mm x450 LM(UL)
100µm

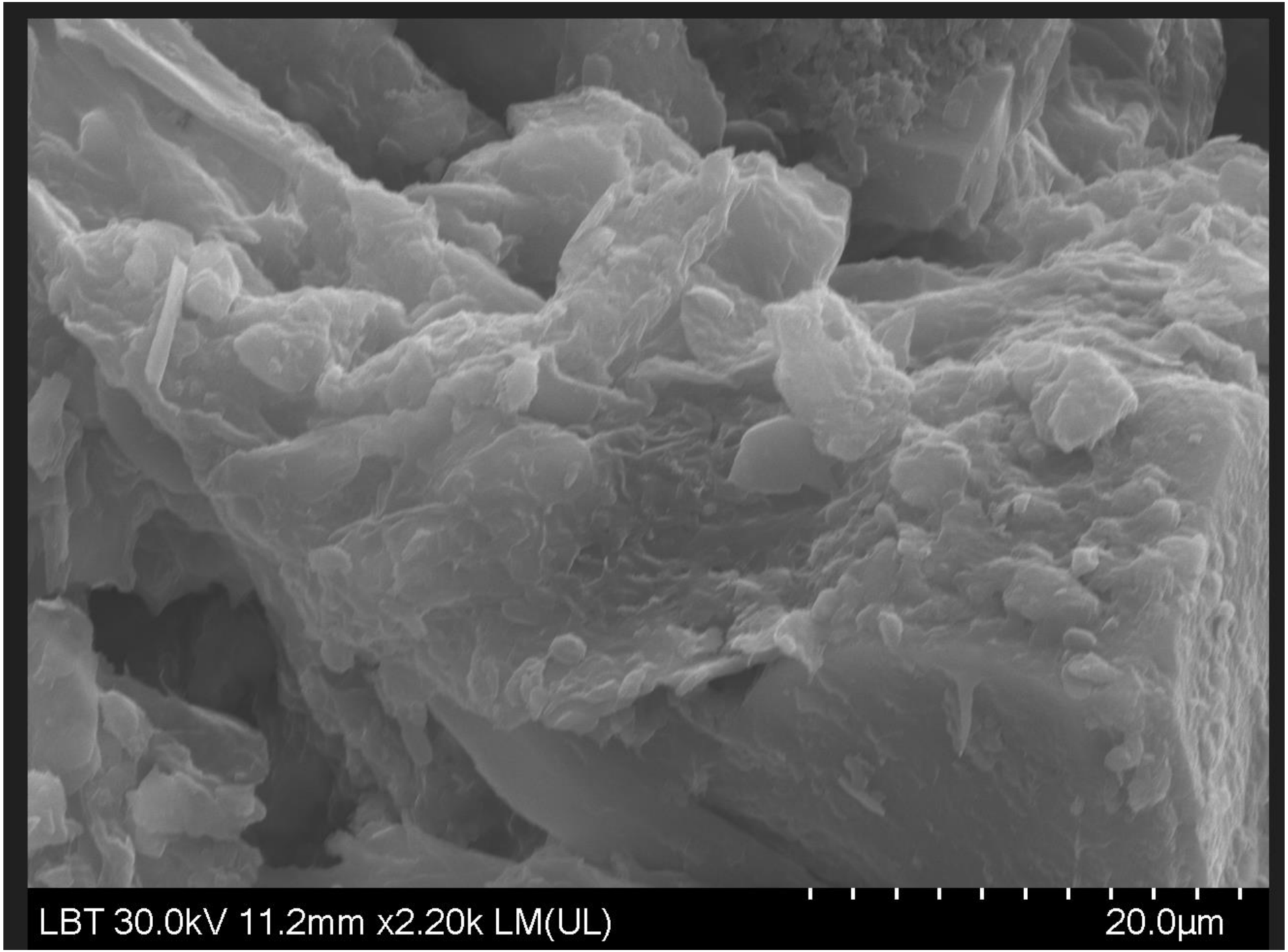

50µm

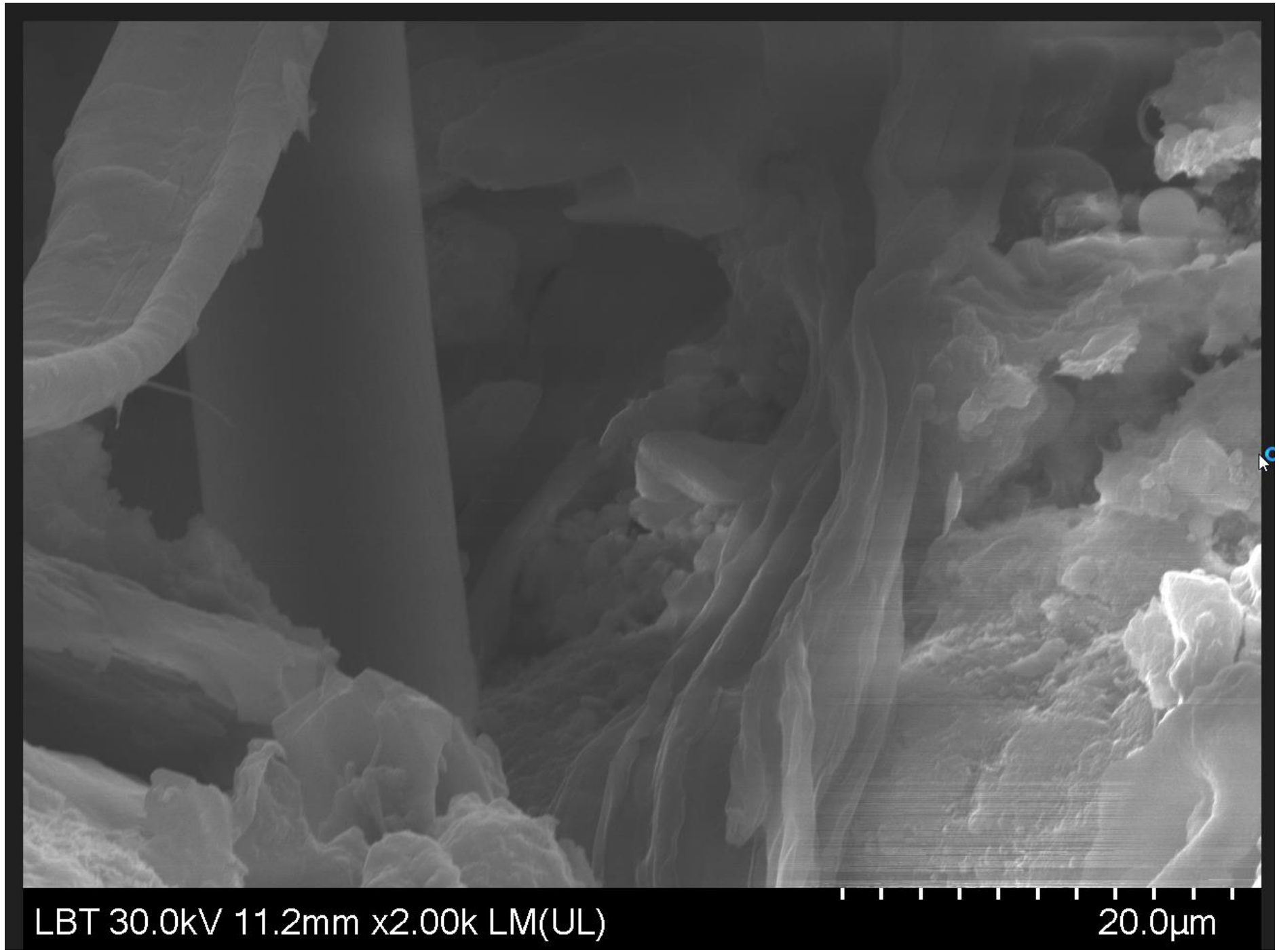

Spectrum 7
Wt% σ
O 71.4 0.2
Si 15.3 0.1
Al 6.5 0.1
Fe 2.3 0.1
Mg 1.4 0.1
K 0.9 0.0
Na 0.8 0.1
Ca 0.7 0.0
P 0.3 0.0
S 0.2 0.0
Ti 0.2 0.0
cps/eV
150
100
50
0
0 1 2 3 4 5 6 7 keV
O
Si
Mg
Ti
Ca
Fe
Na
Al
P
S
K
Ca
Ca
Ti
Ti
Fe
Fe

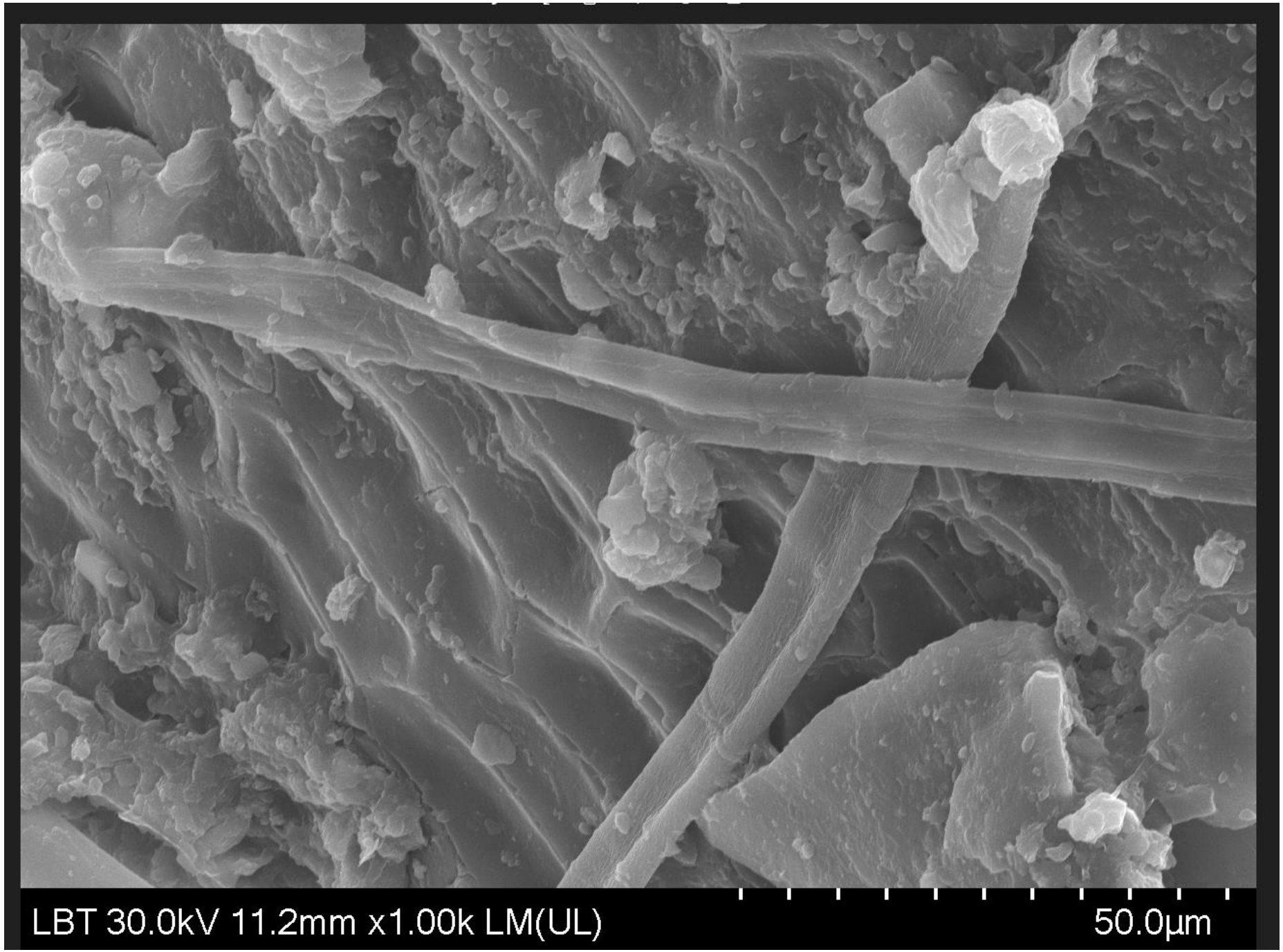

LBT 30.0kV 11.2mm x800 LM(UL)
50.0µm

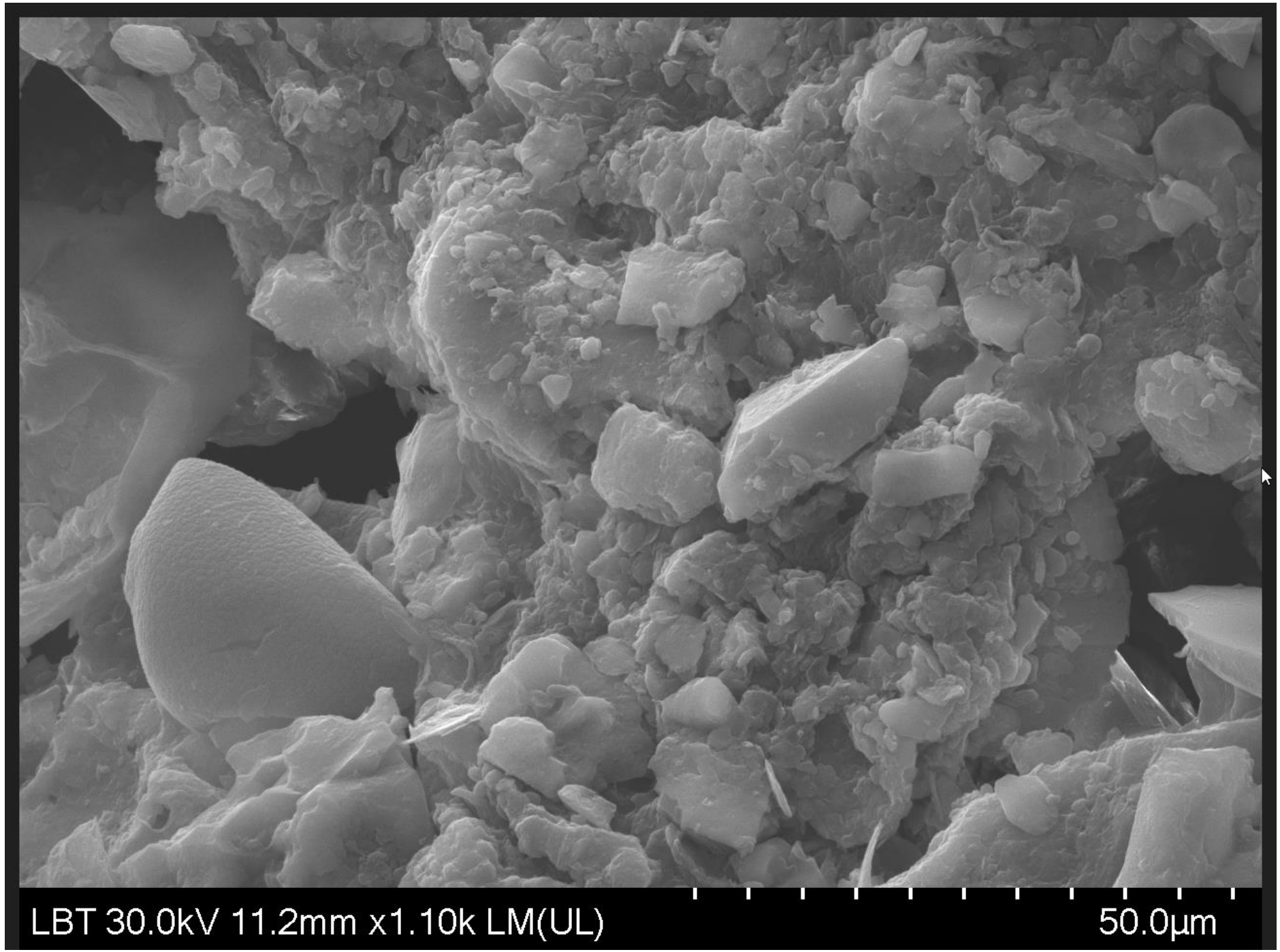

LBT 0.0kV 11.2mm x1.10k LM(UL)
50.0µm

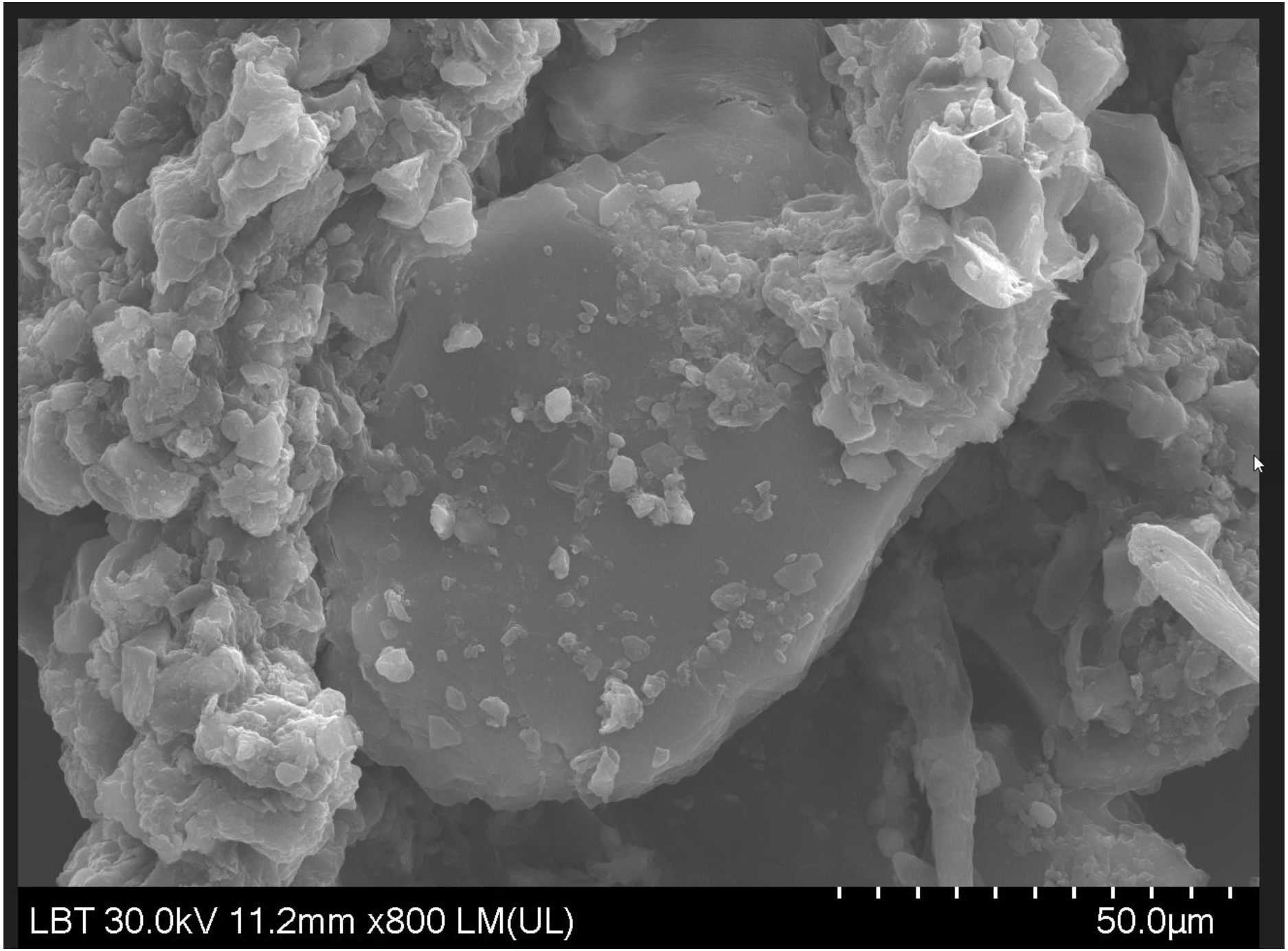

LBT 30.0kV 11.2mm x1.80k LM(UL)
30.0µm

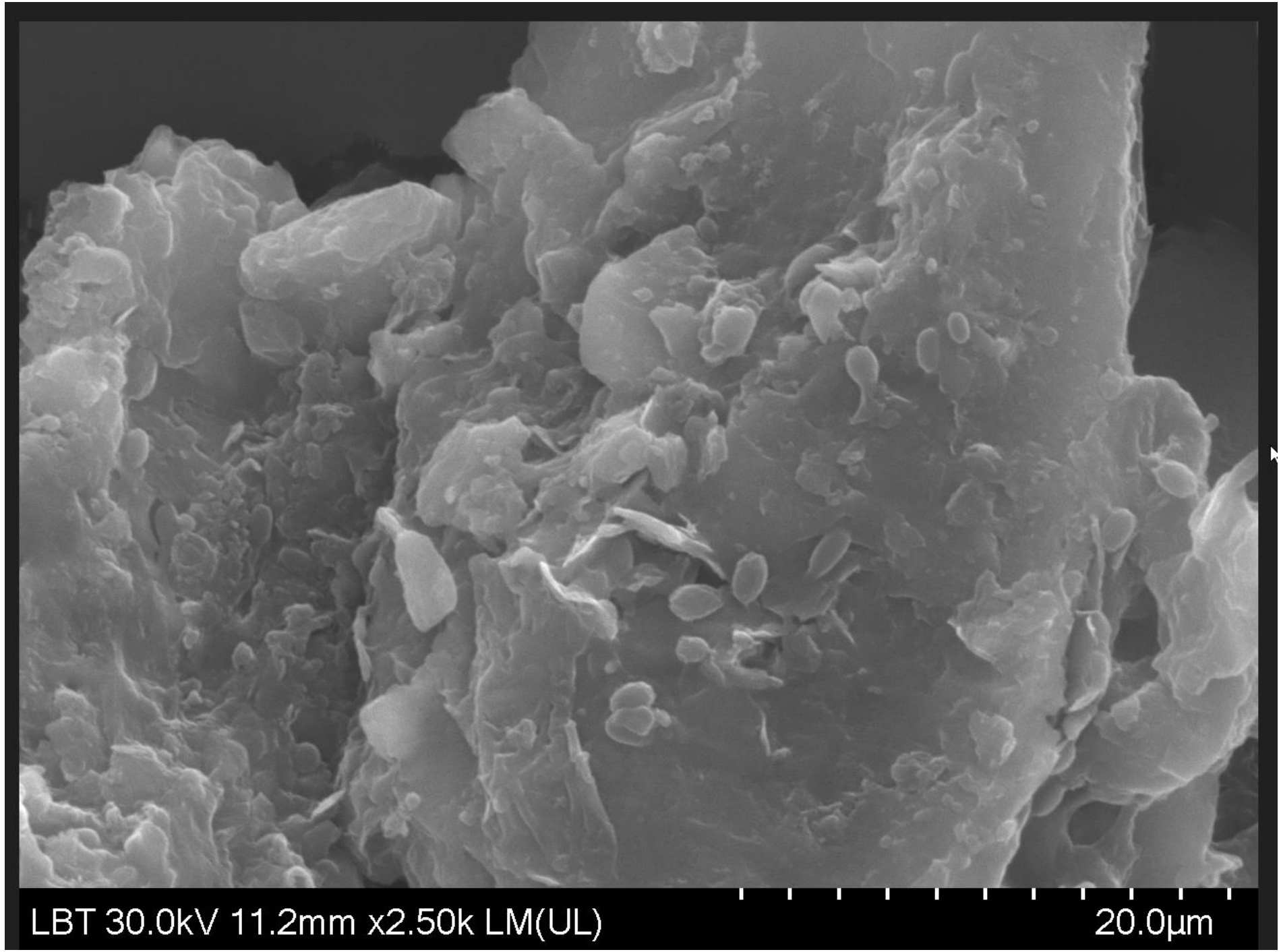

LBT 30.0kV 11.2mm x2.20k LM(UL)
20.0µm

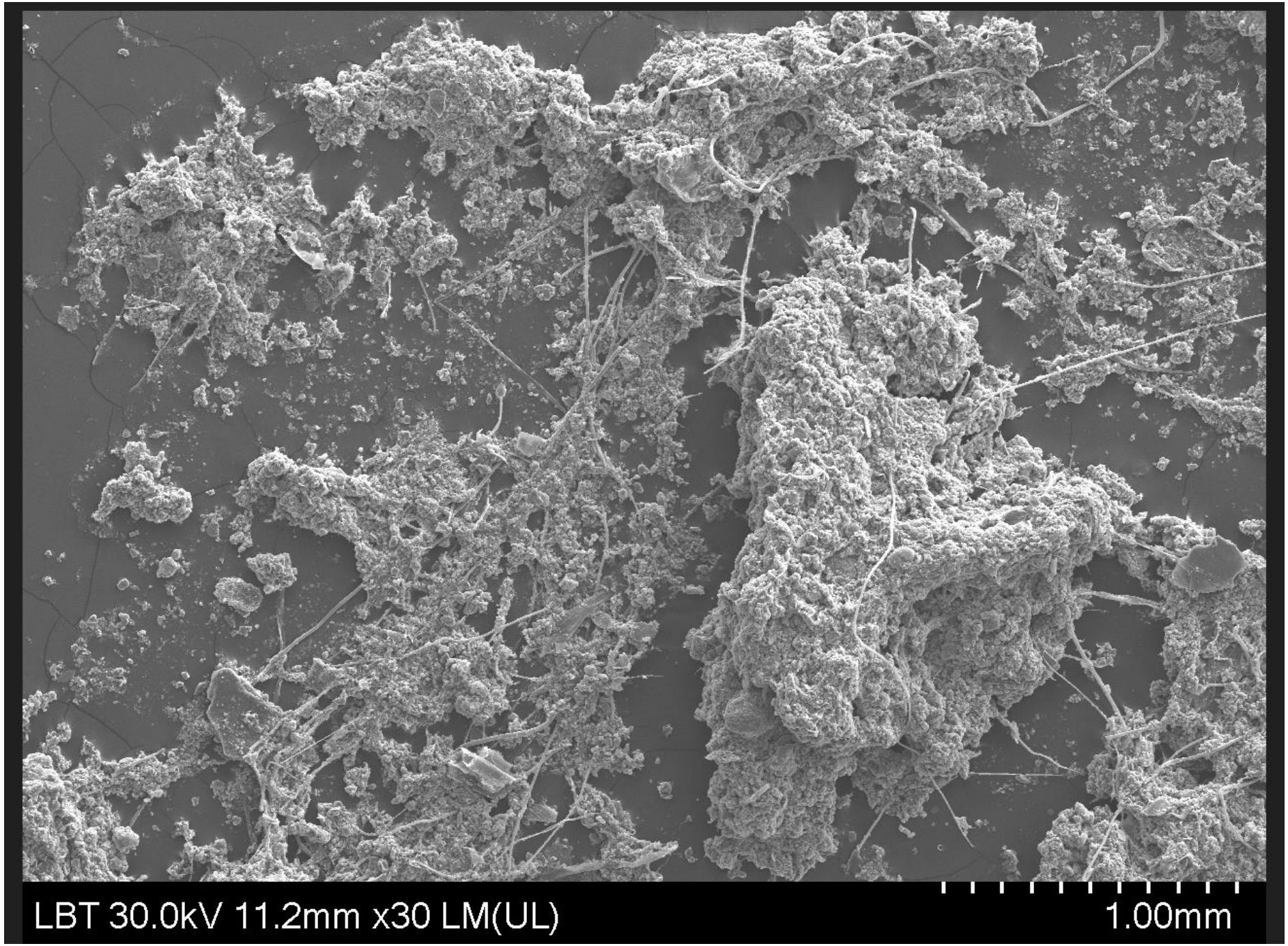

LBT 30.0kV 11.2mm x2.00k LM(UL)
20.0µm

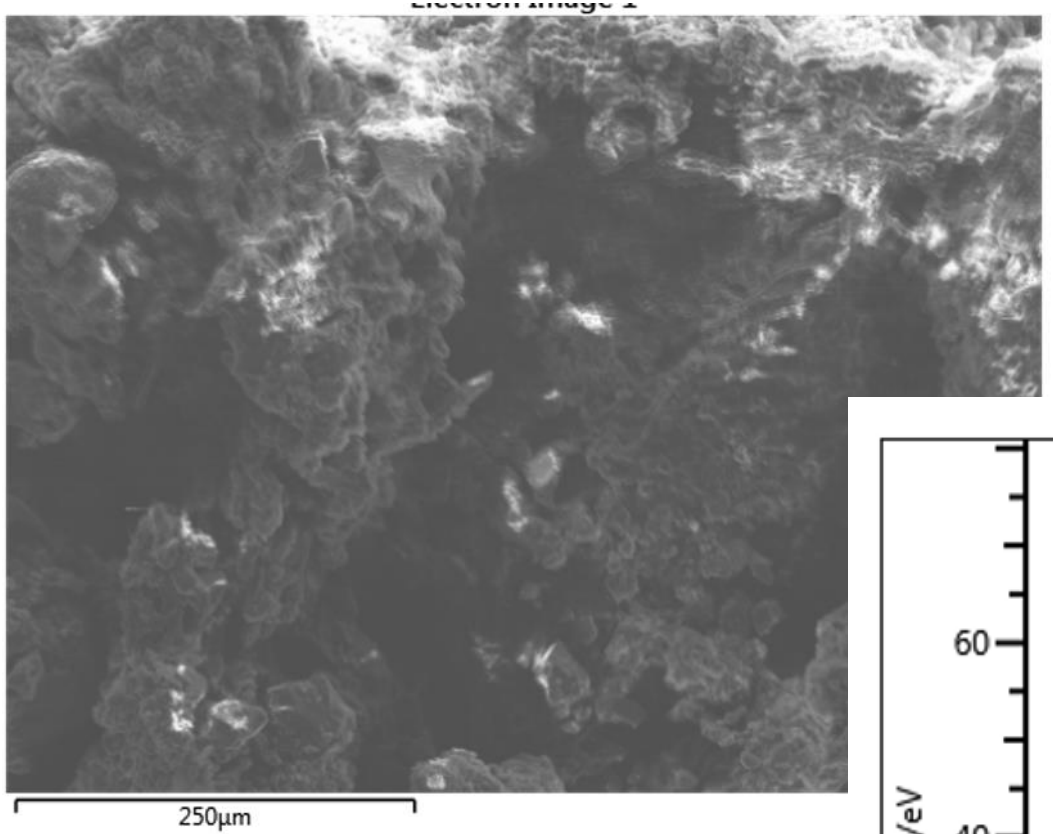

LBT 30.0kV 11.2mm x1.00k LM(UL)
50.0µm

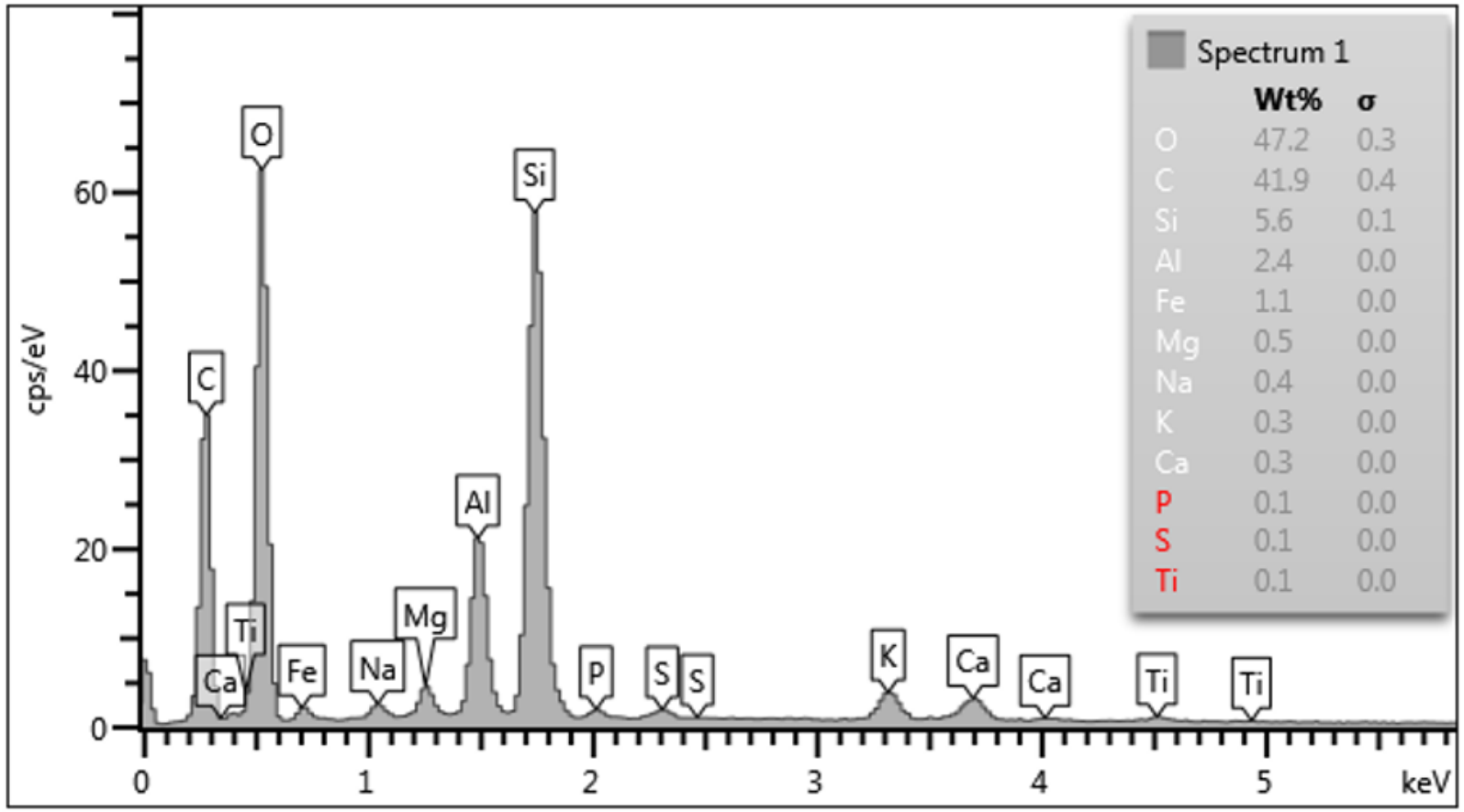

LBT 30.0kV 11.2mm x1.10k LM(UL)
50.0µm

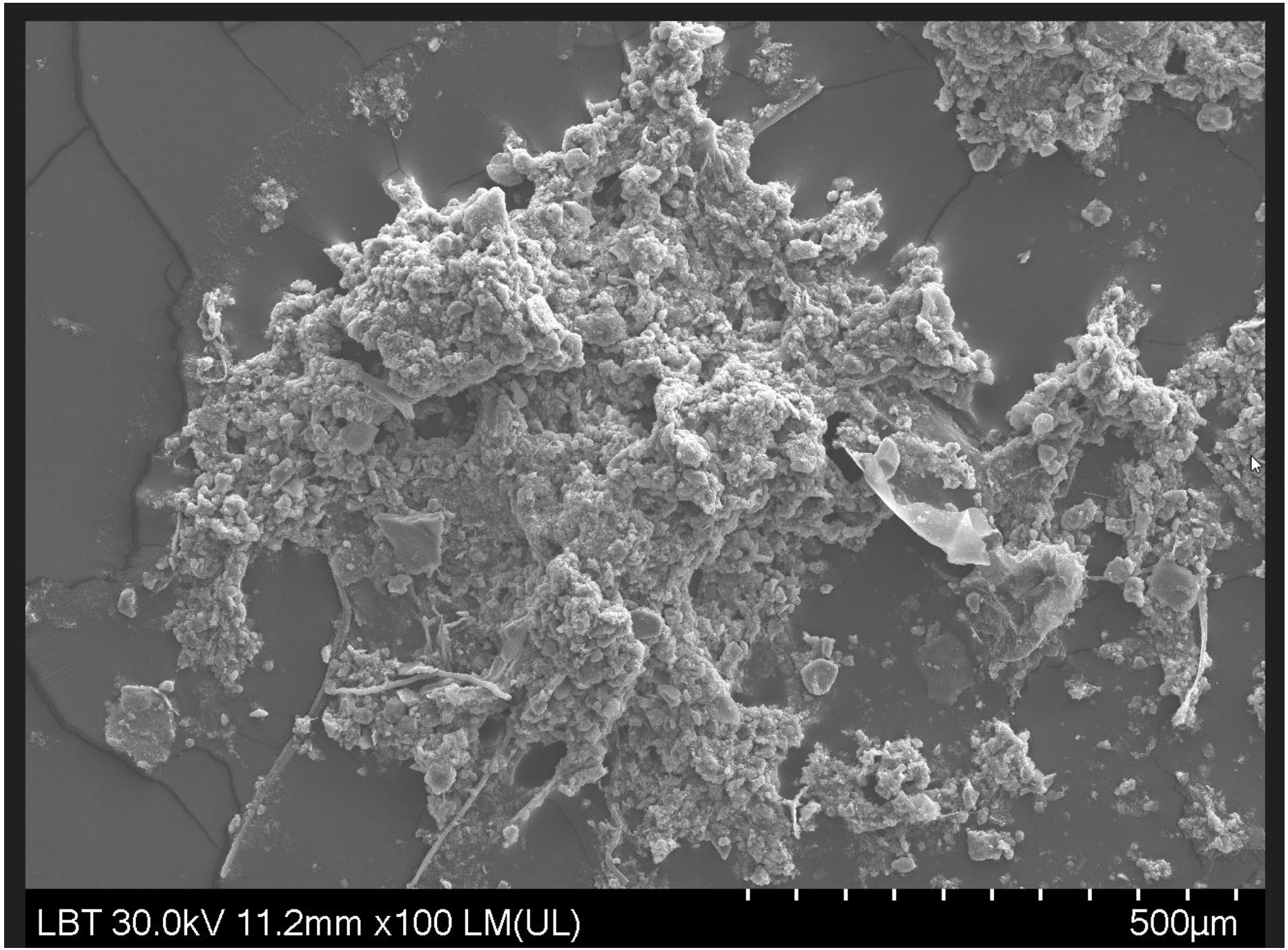

LBT 30.0kV 11.2mm x800 LM(UL)
50.0µm

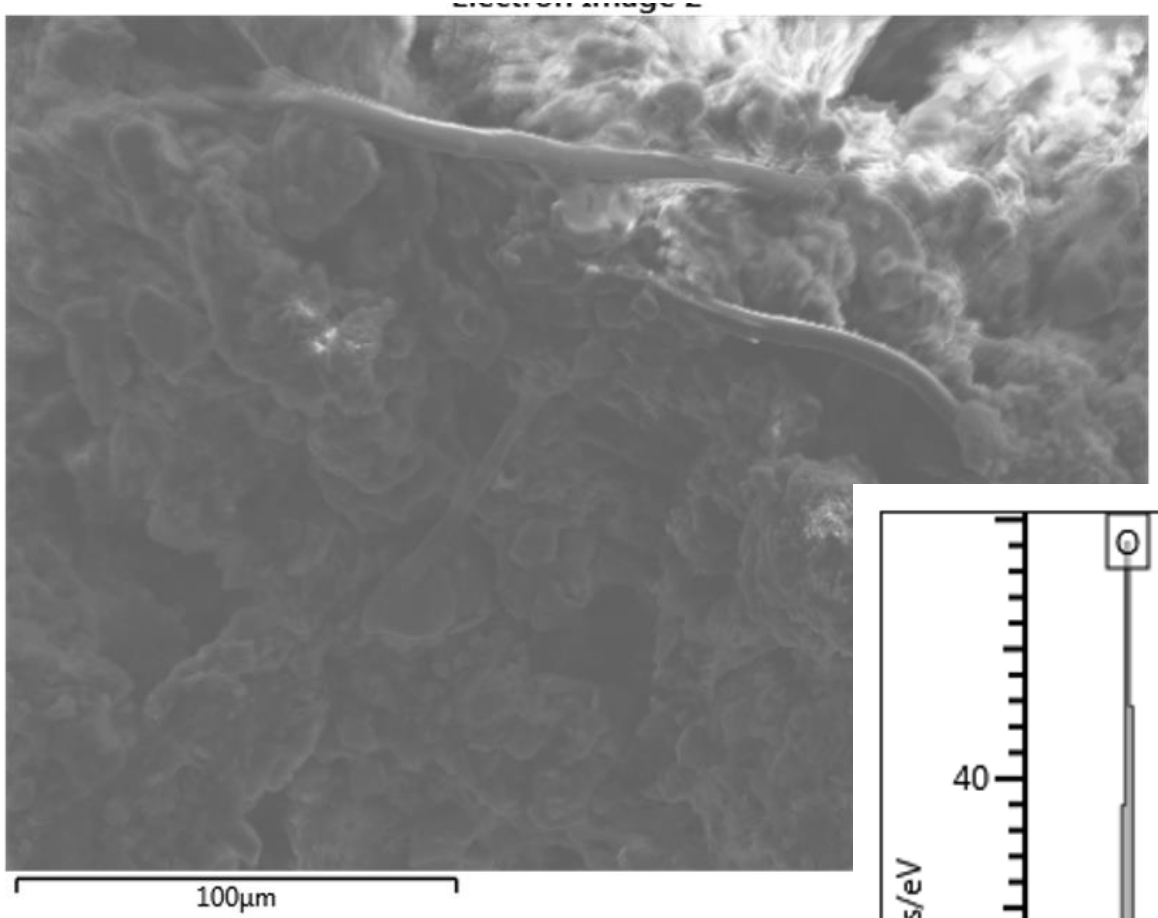

LBT 30.0kV 11.2mm x2.50k LM(UL)
20.0µm

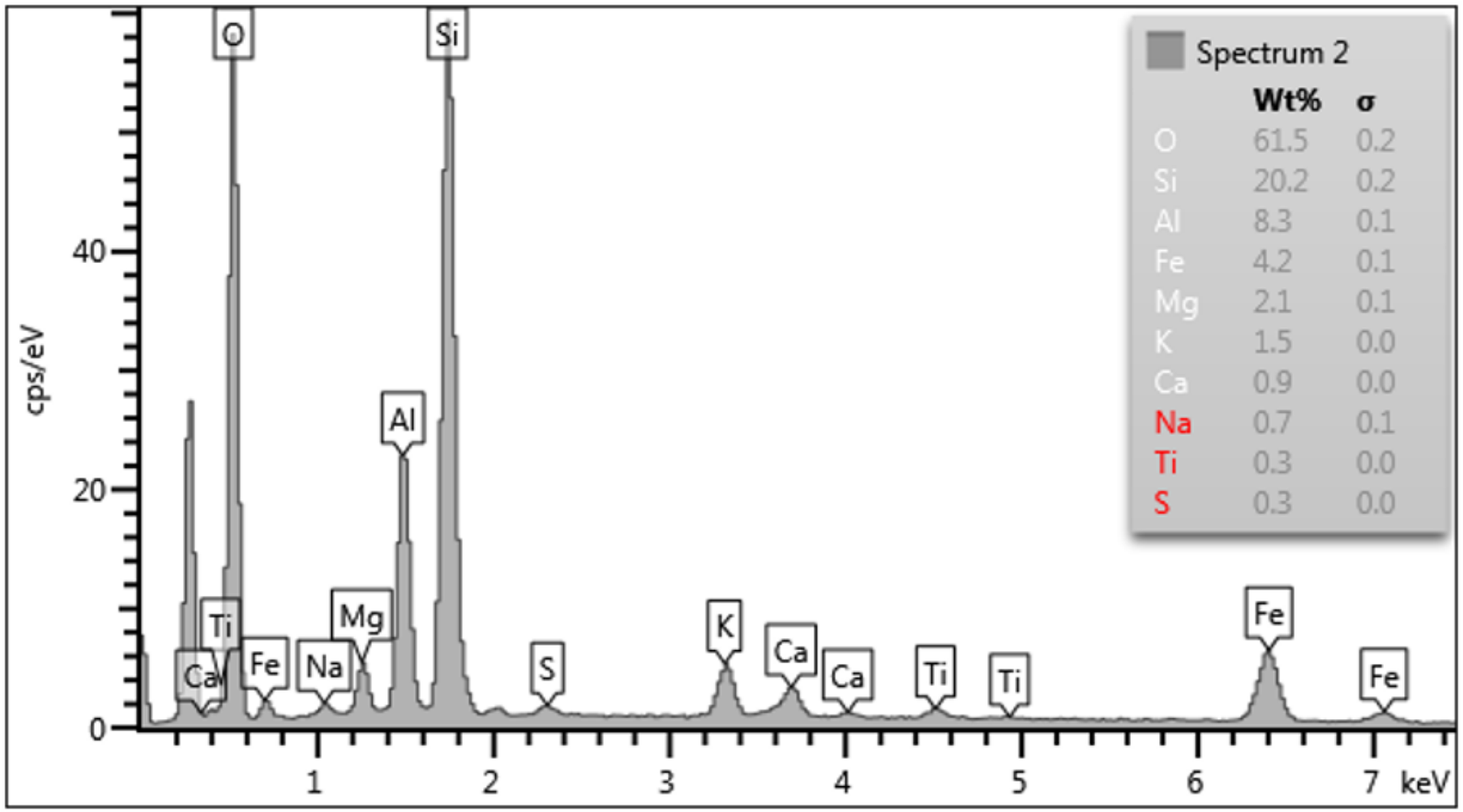

LBT 30.0kV 11.2mm x30 LM(UL)
1.00mm

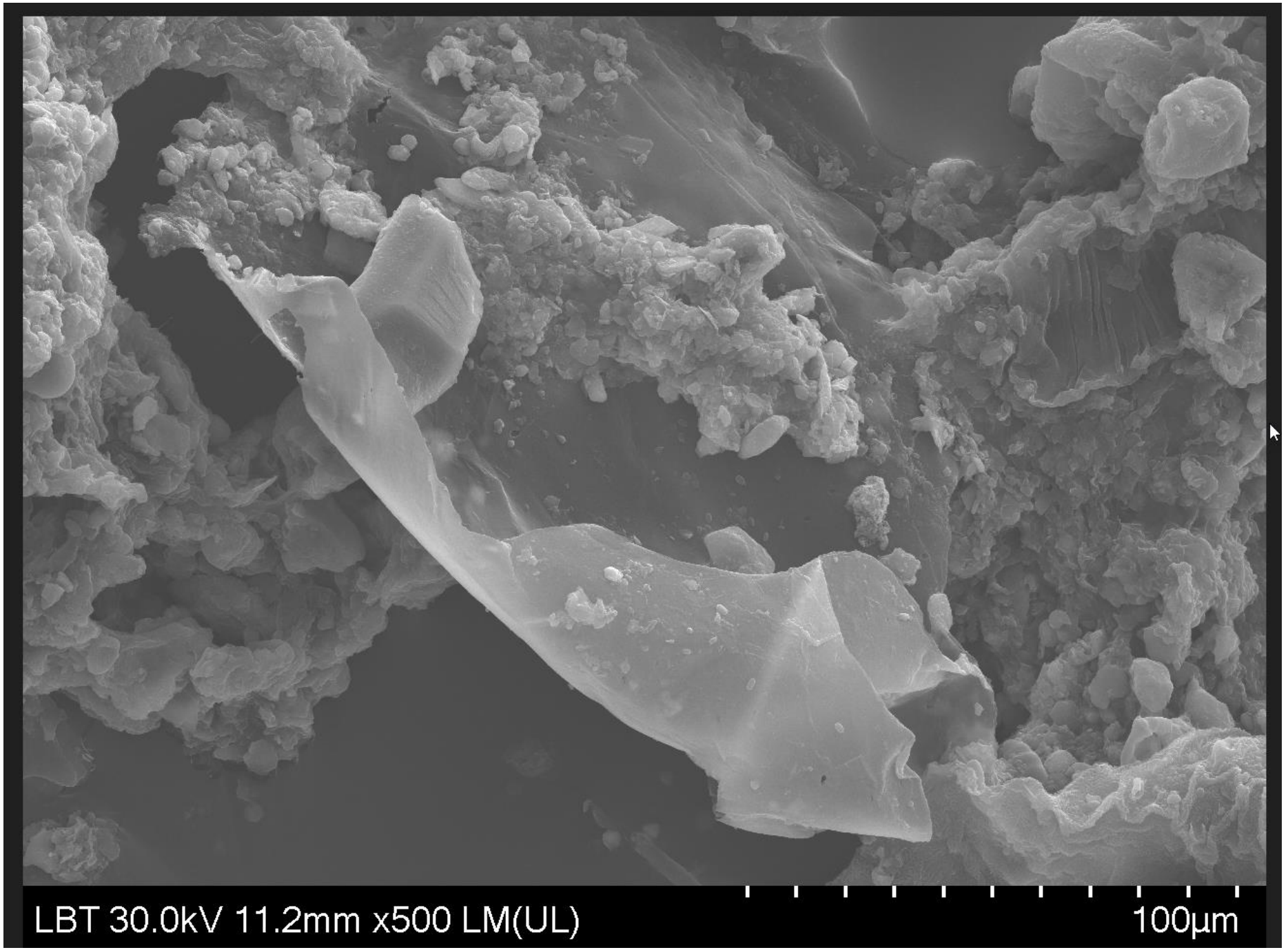

250µm

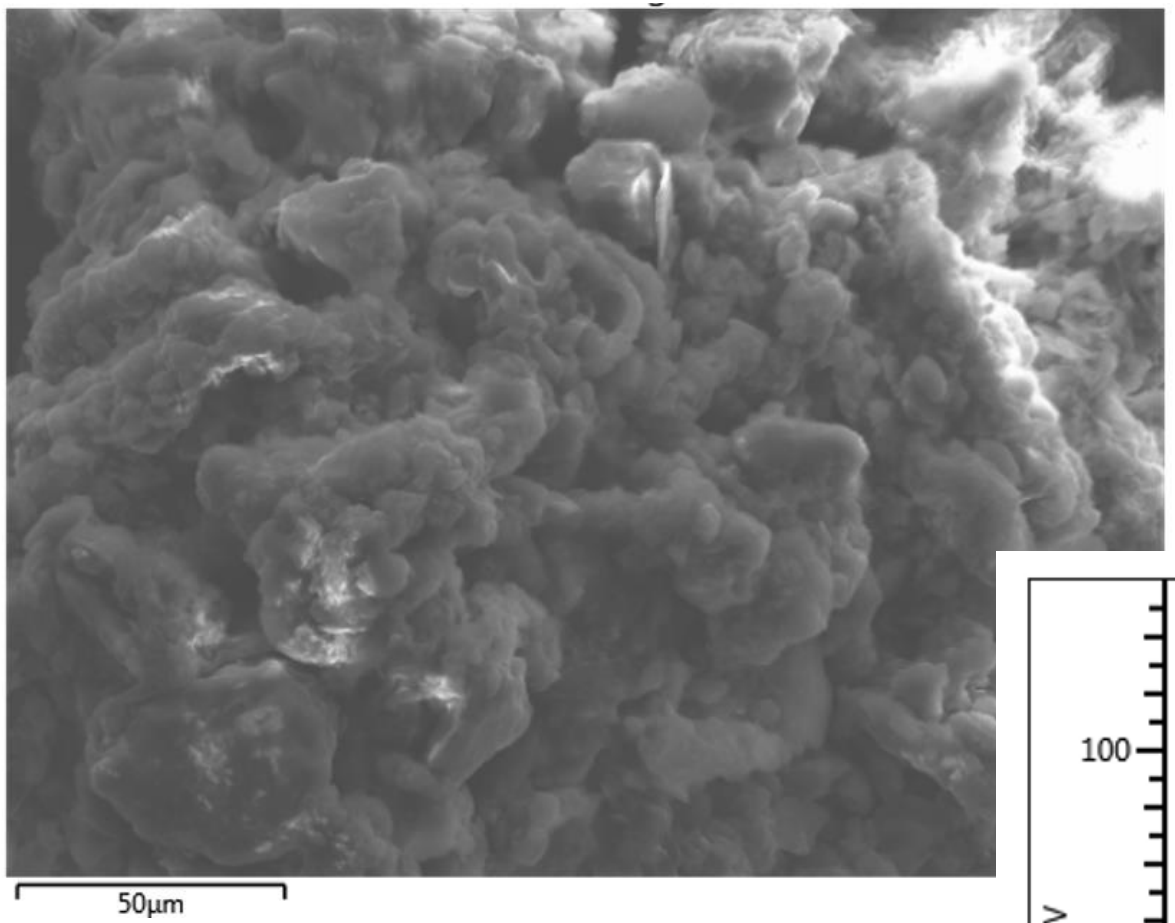

Spectrum 1
Wt% σ
O 47.2 0.3
C 41.9 0.4
Si 5.6 0.1
Al 2.4 0.0
Fe 1.1 0.0
Mg 0.5 0.0
Na 0.4 0.0
K 0.3 0.0
Ca 0.3 0.0
P 0.1 0.0
S 0.1 0.0
Ti 0.1 0.0
cps/eV
0
20
40
60
0
1
2
3
4
5
keV
O
C
Si
Al
Mg
Ti
Ca
Fe
Na
P
S
S
K
Ca
Ca
Ti
Ti

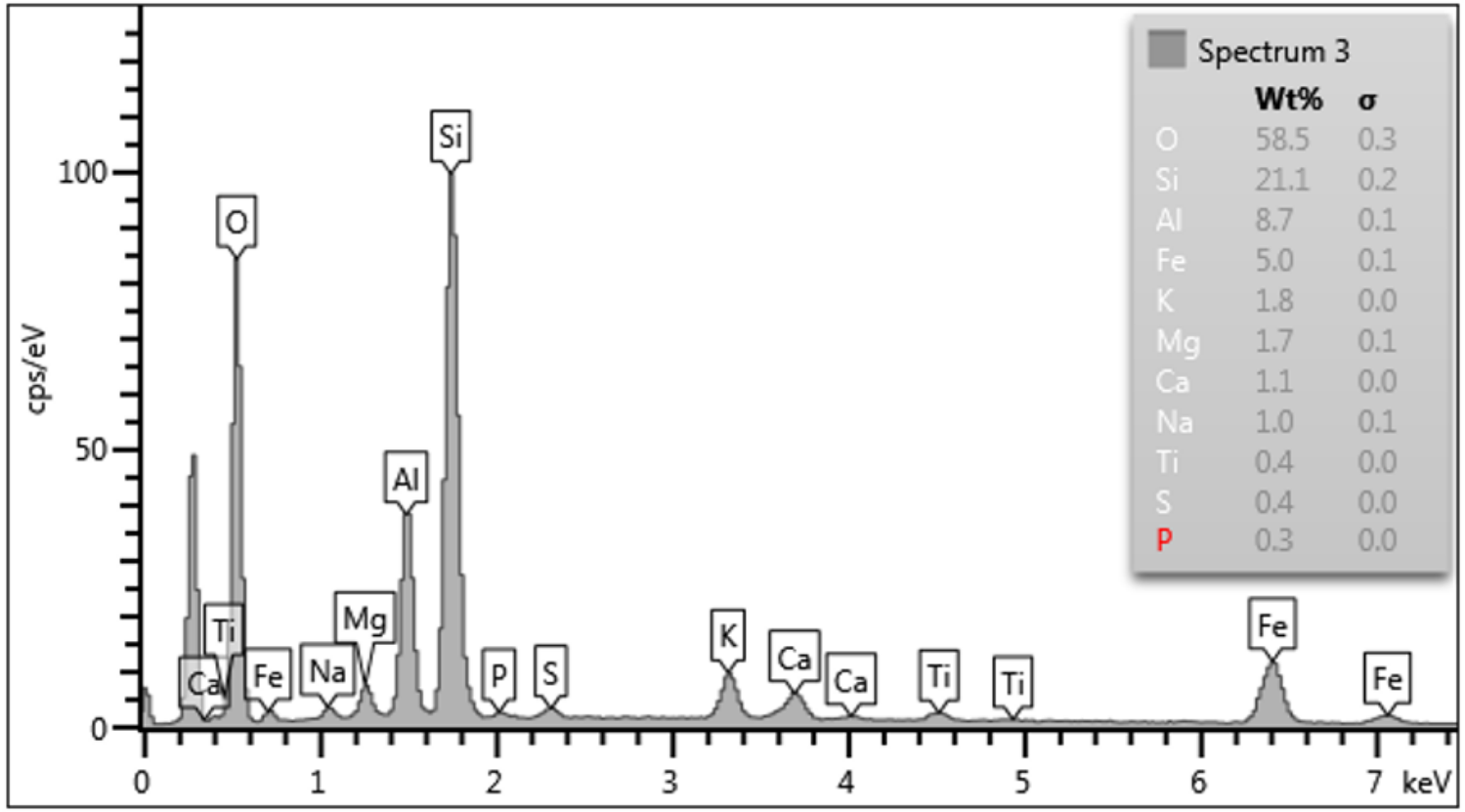

LBT 30.0kV 11.2mm x100 LM(UL)
500µm

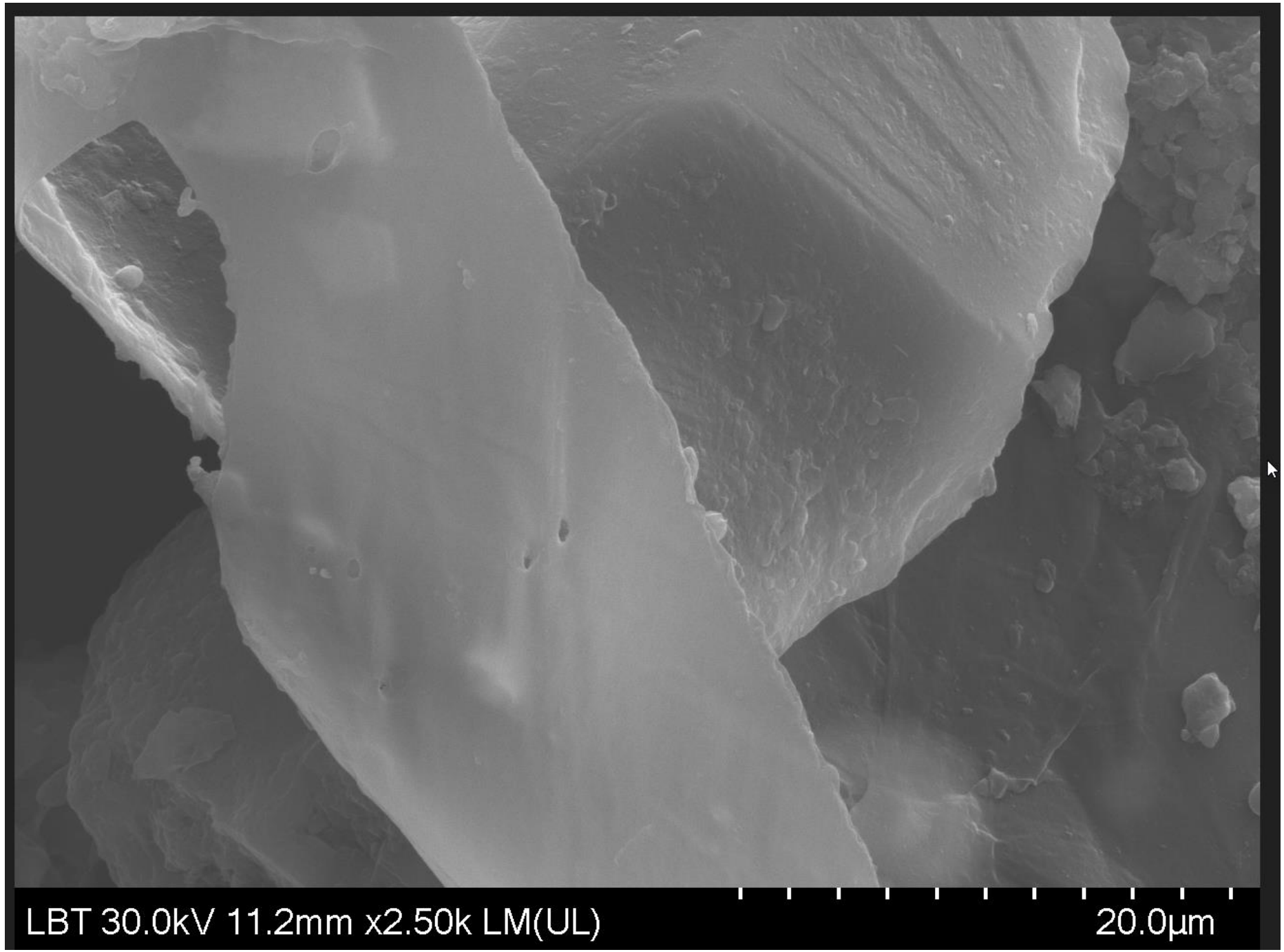

100µm

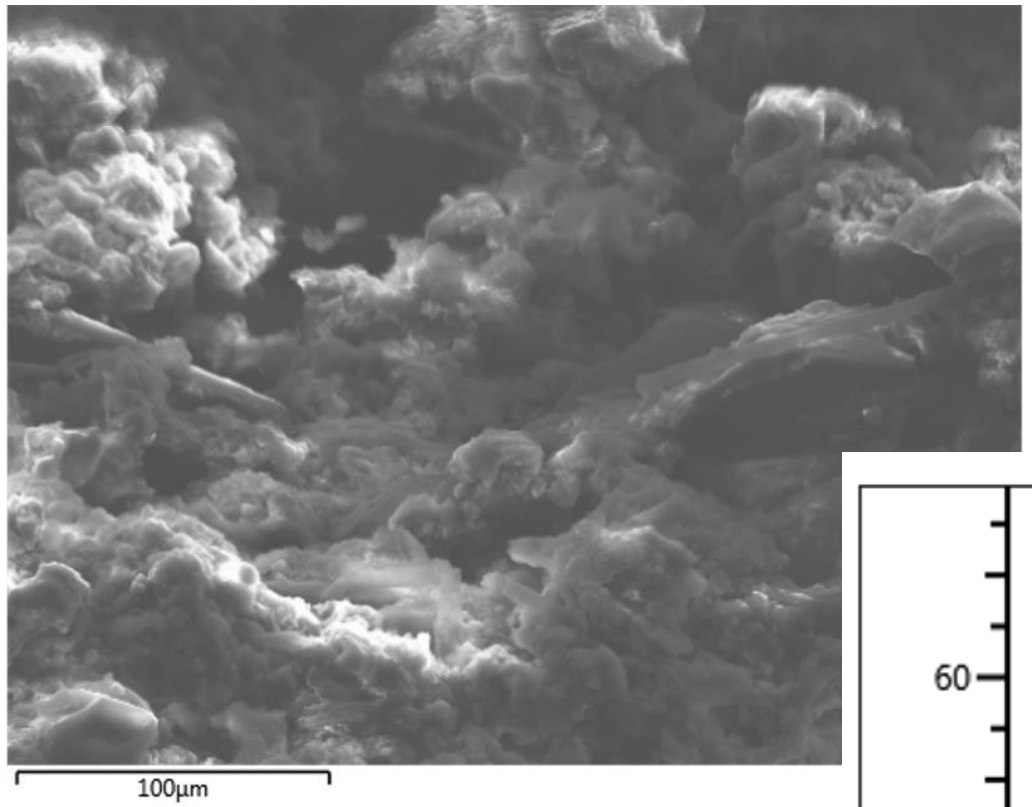

Spectrum 2
Wt% σ
O 61.5 0.2
Si 20.2 0.2
Al 8.3 0.1
Fe 4.2 0.1
Mg 2.1 0.1
K 1.5 0.0
Ca 0.9 0.0
Na 0.7 0.1
Ti 0.3 0.0
S 0.3 0.0
cps/eV
0
20
40
1
2
3
4
5
6
7 keV
O
Si
Al
Mg
Ti
Ca
Fe
Na
S
K
Ca
Ca
Ti
Ti
Fe
Fe

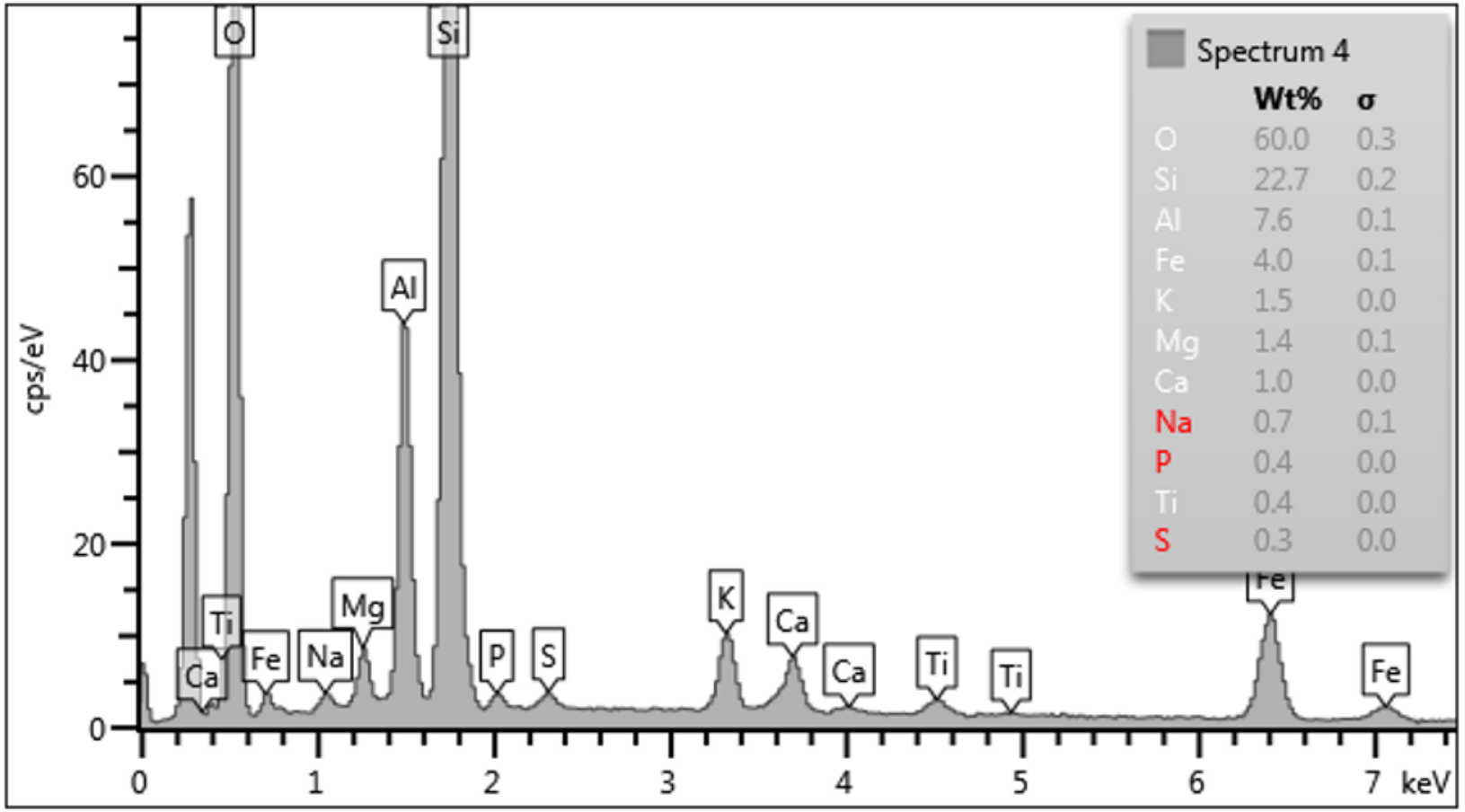

LBT 30.0kV 11.2mm x500 LM(UL)
100µm


50µm


Spectrum 3
Wt% σ
O 58.5 0.3
Si 21.1 0.2
Al 8.7 0.1
Fe 5.0 0.1
K 1.8 0.0
Mg 1.7 0.1
Ca 1.1 0.0
Na 1.0 0.1
Ti 0.4 0.0
S 0.4 0.0
P 0.3 0.0
cps/eV
100
50
0
0 1 2 3 4 5 6 7 keV
O
Si
Al
Mg
Ti
Ca
Fe
Na
P
S
K
Ca
Ca
Ti
Ti
Fe
Fe


LBT 30.0kV 11.2mm x2.50k LM(UL)
20.0µm


100µm


Spectrum 4
Wt% σ
O 60.0 0.3
Si 22.7 0.2
Al 7.6 0.1
Fe 4.0 0.1
K 1.5 0.0
Mg 1.4 0.1
Ca 1.0 0.0
Na 0.7 0.1
P 0.4 0.0
Ti 0.4 0.0
S 0.3 0.0
cps/eV
0
20
40
60
0
1
2
3
4
5
6
7 keV
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Si
Al
Mg
Ti
Ca
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Na
P
S
K
Ca
Ca
Ti
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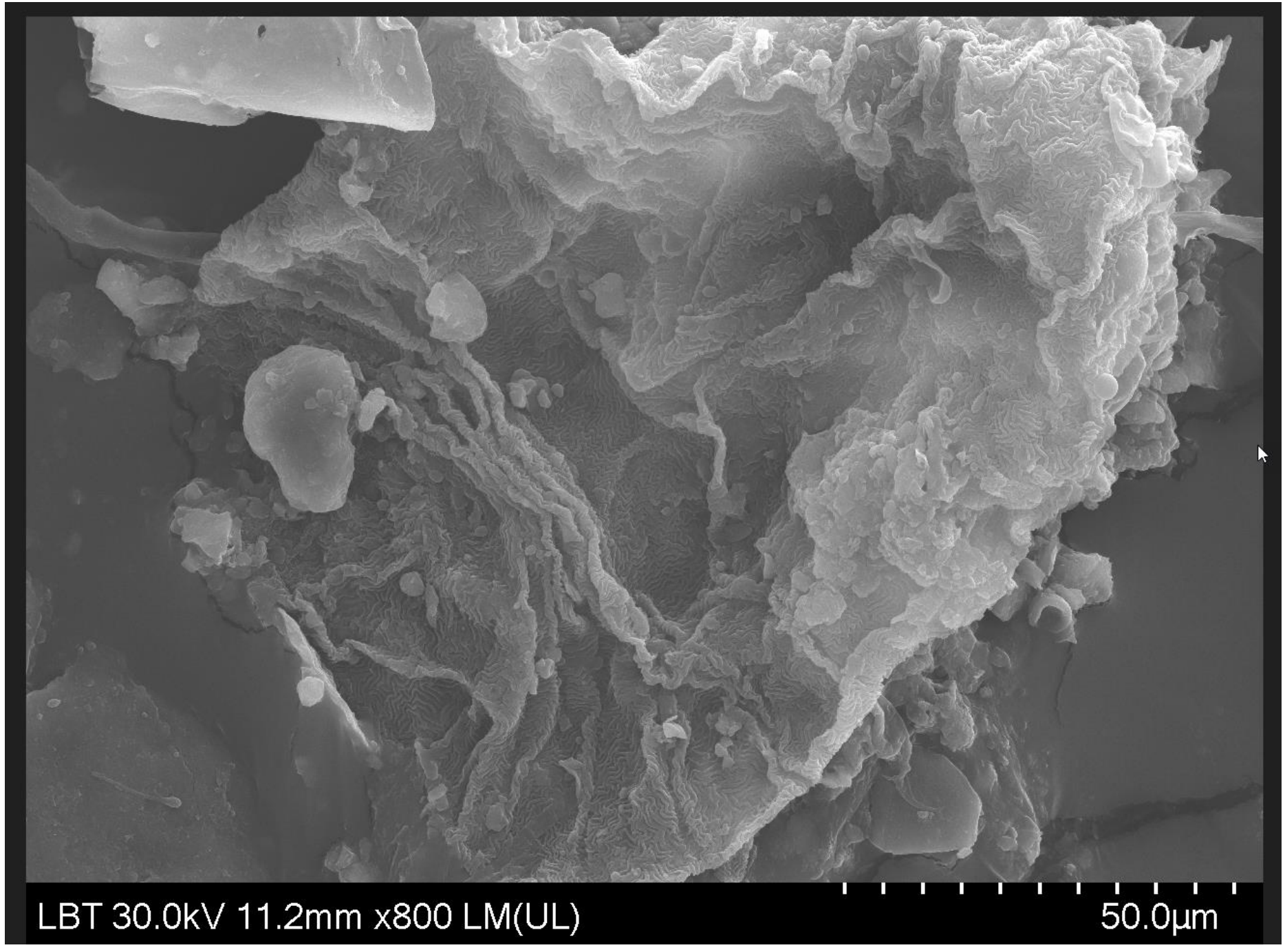
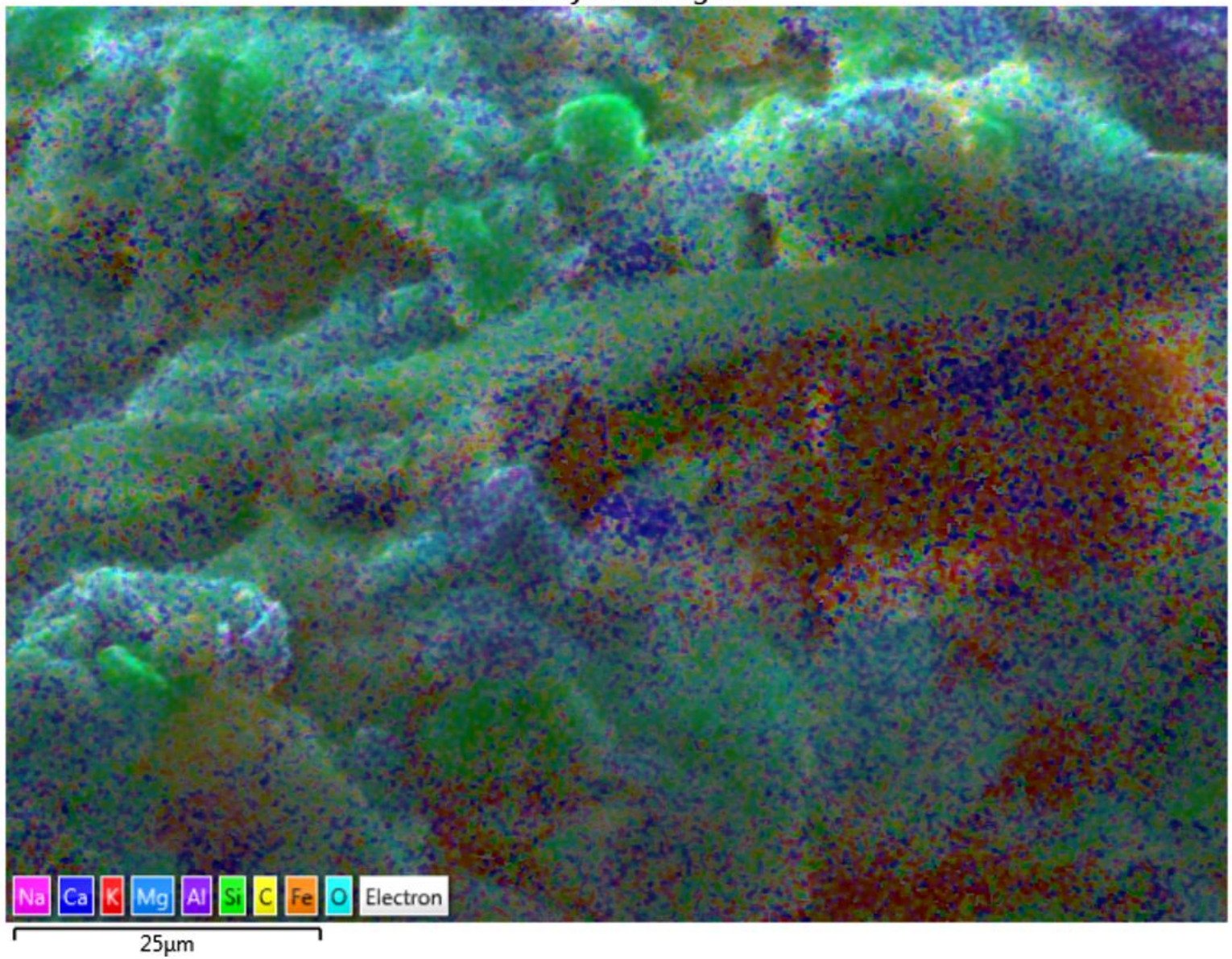
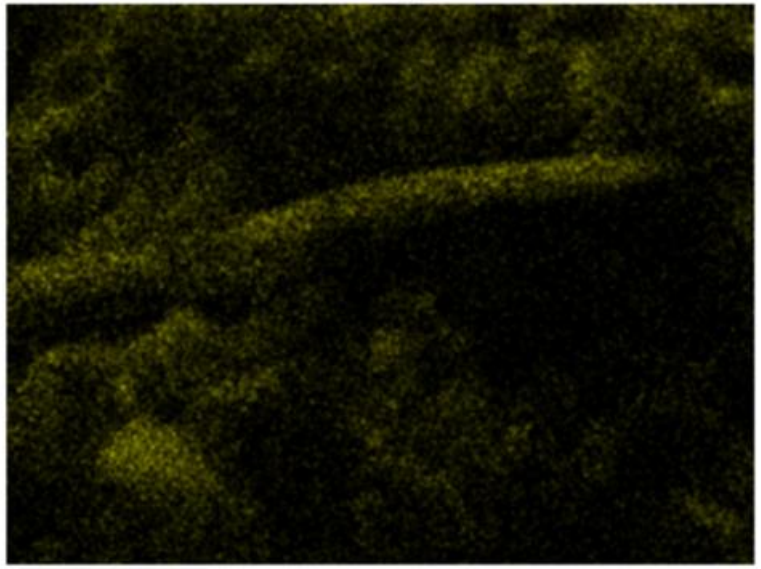
Fe
Fe


LBT 30.0kV 11.2mm x800 LM(UL)
50.0µm

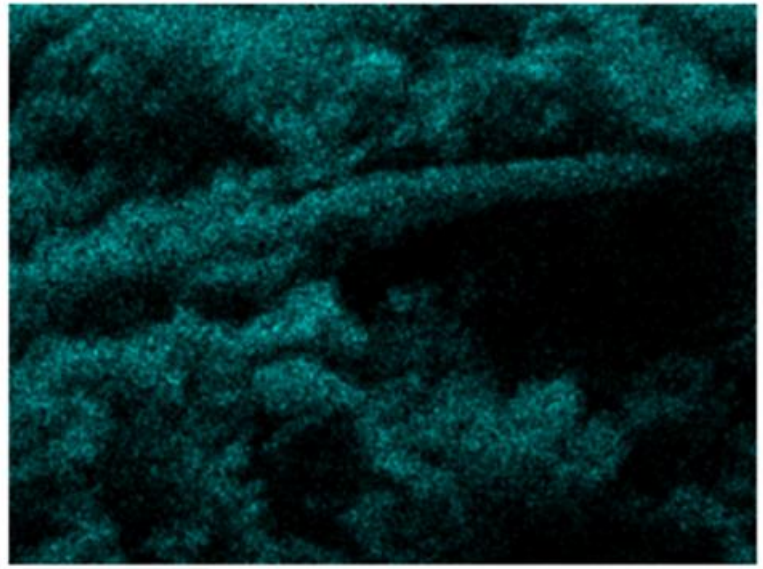
EDS Layered Image 1



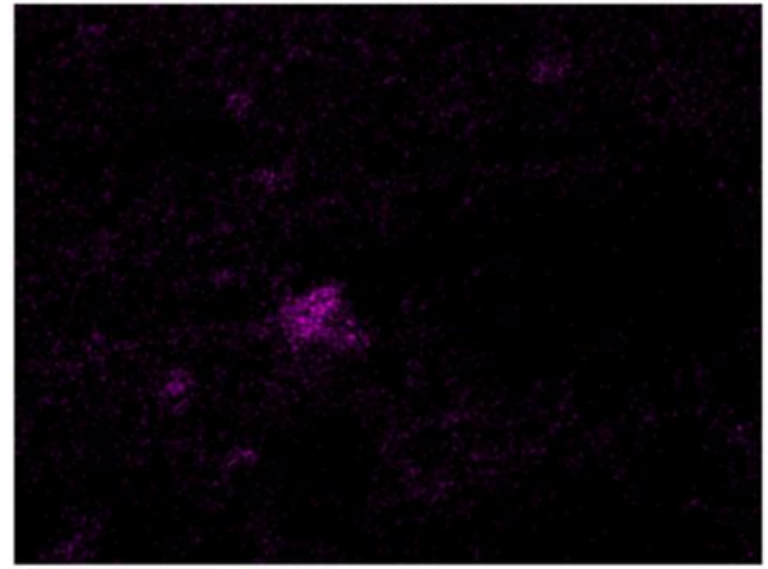
C Kα1_2



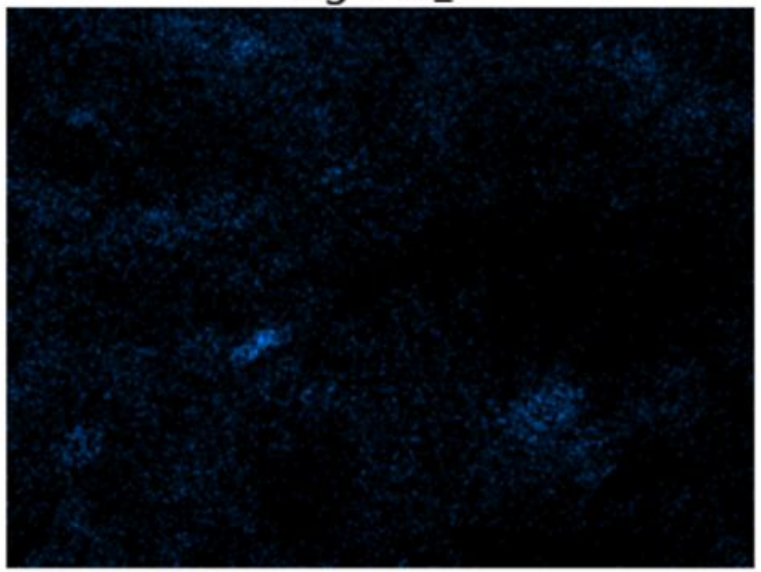
O Kα1



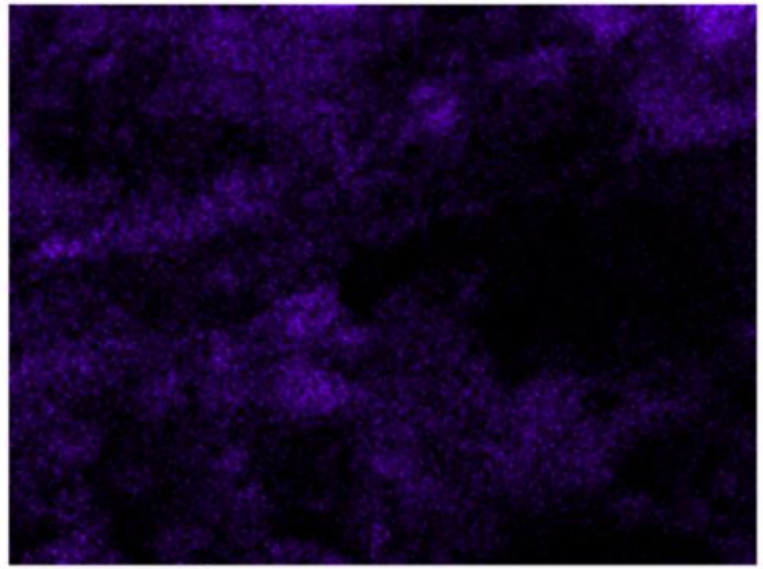
Na Kα1_2



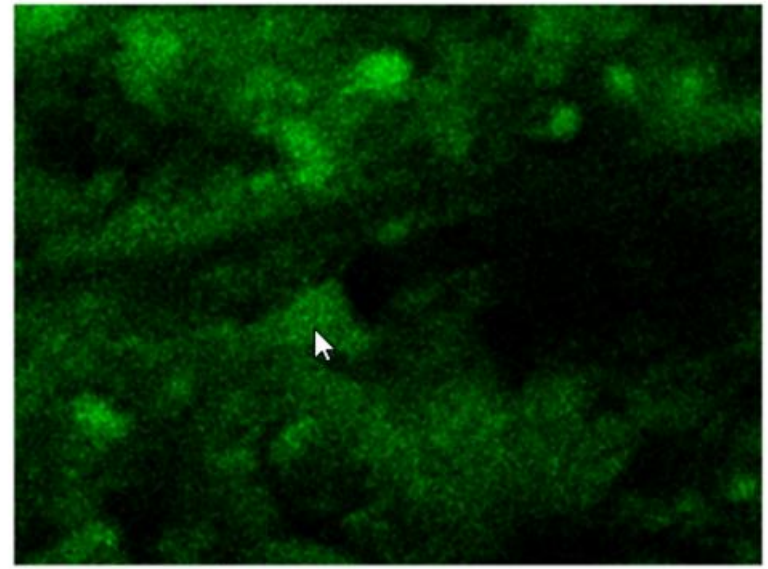
Mg Kα1_2

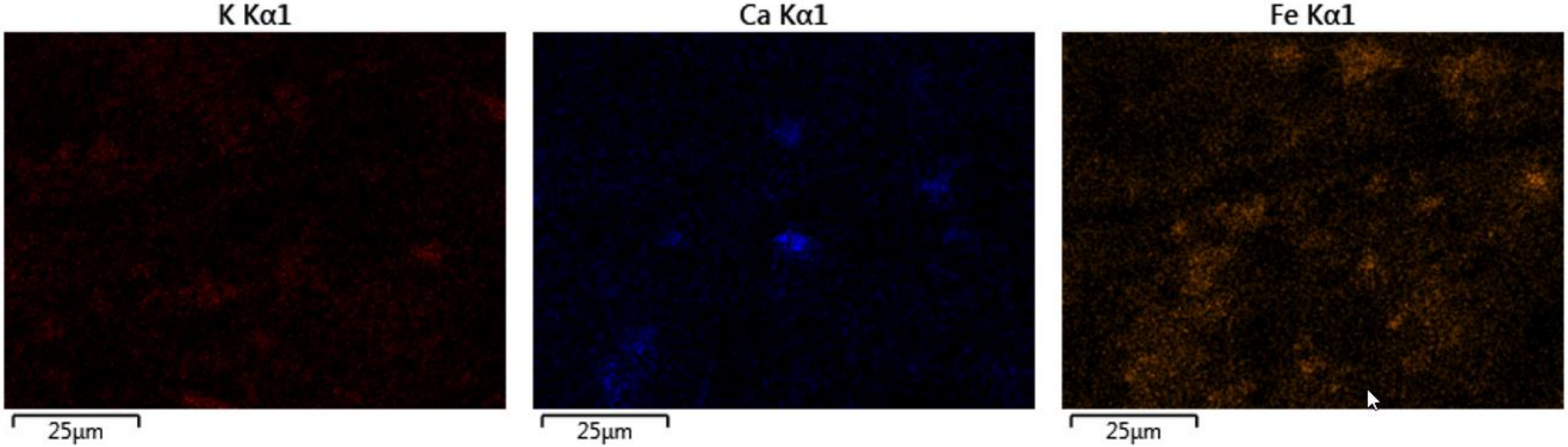


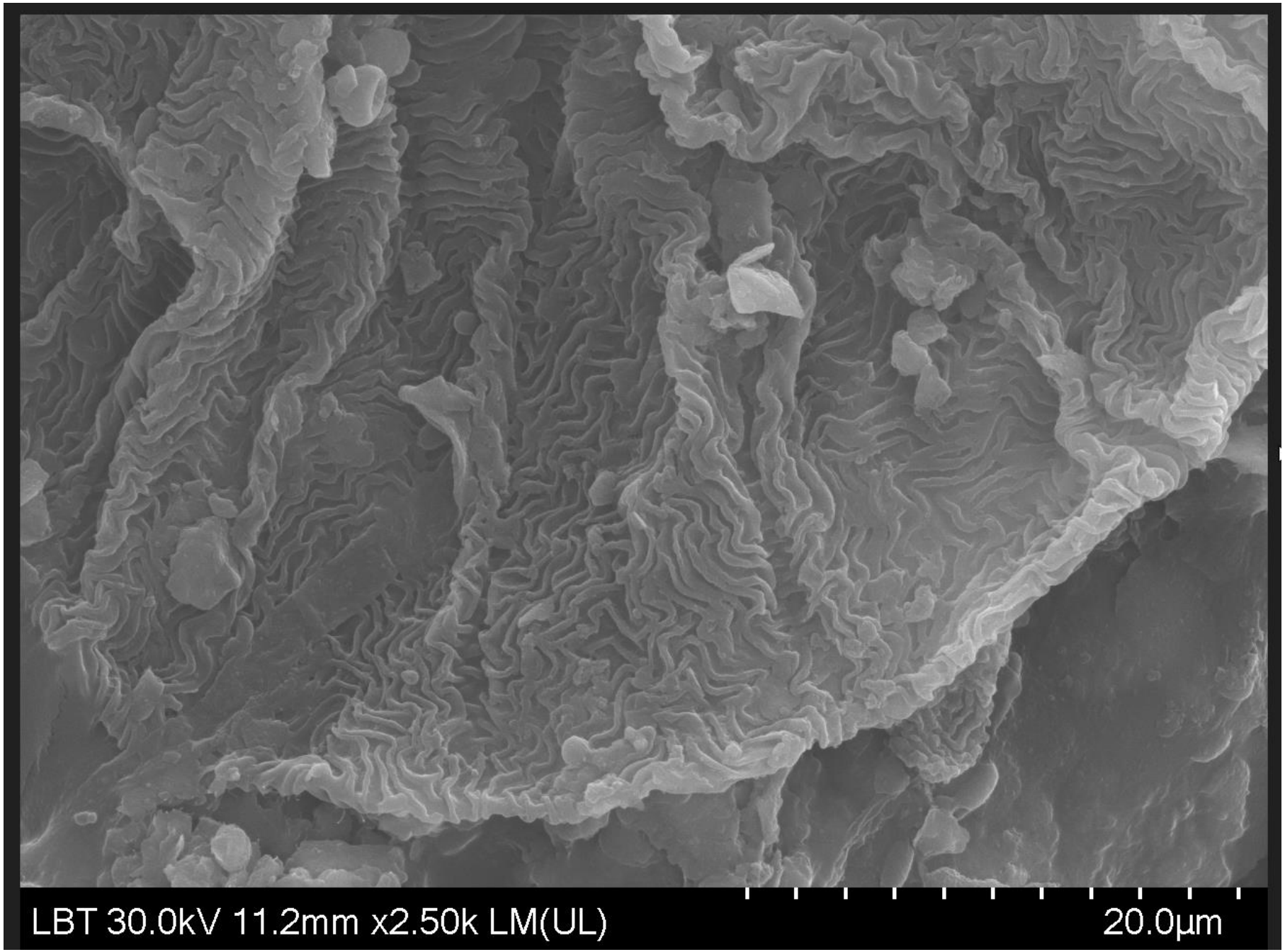
Al Kα1



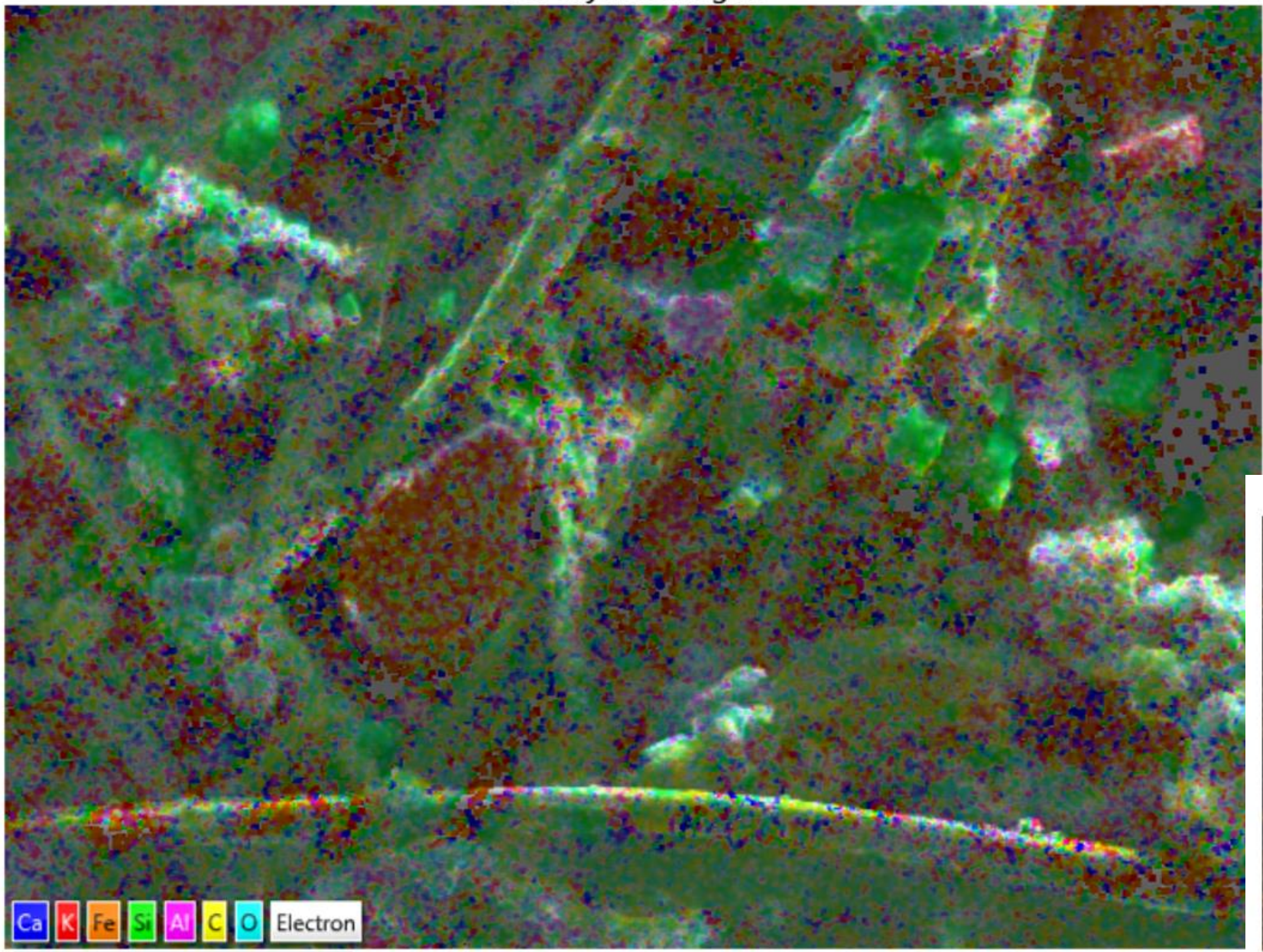
Si Kα1



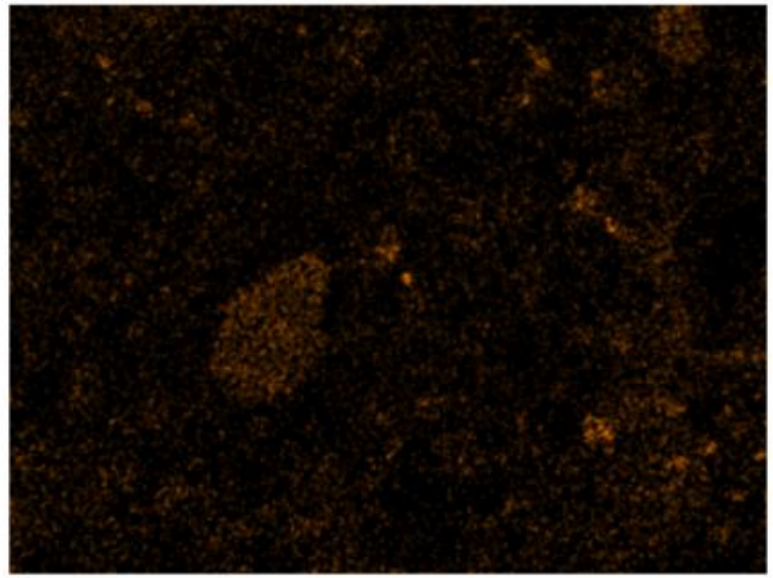

K Kα1
25µm
Ca Kα1
25µm
Fe Kα1
25µm

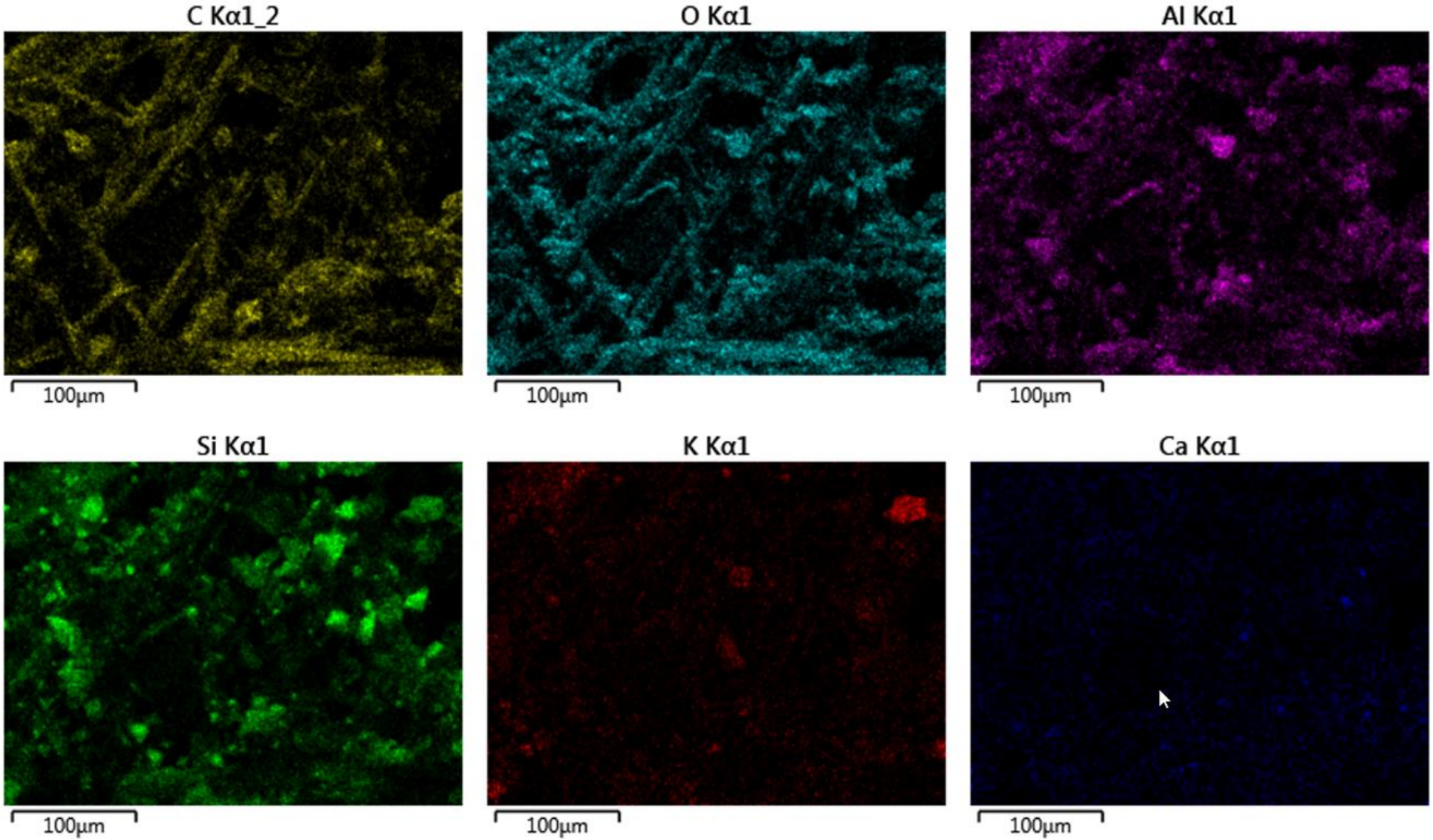

LBT 30.0kV 11.2mm x2.50k LM(UL)
20.0µm

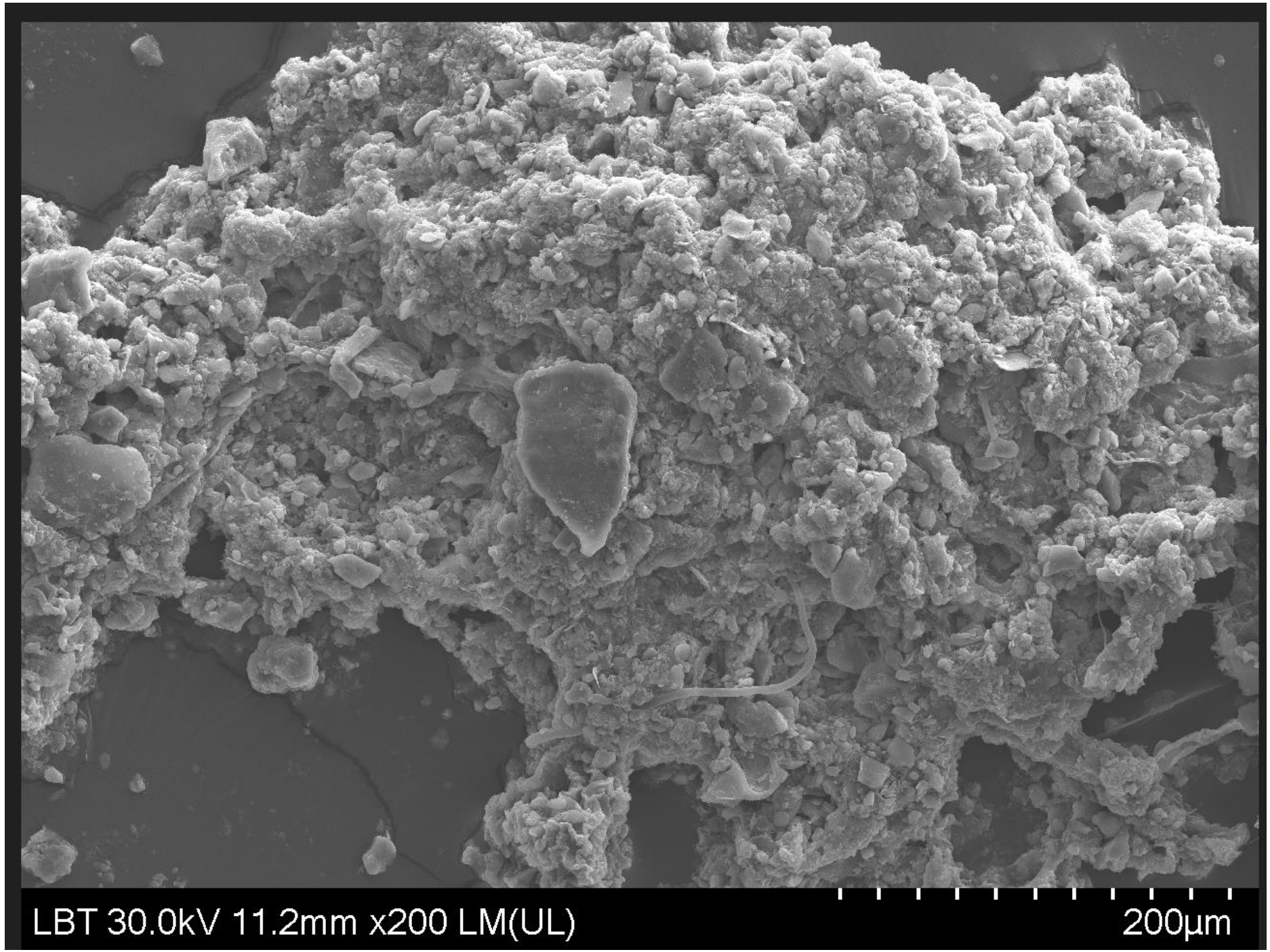
EDS Layered Image 2

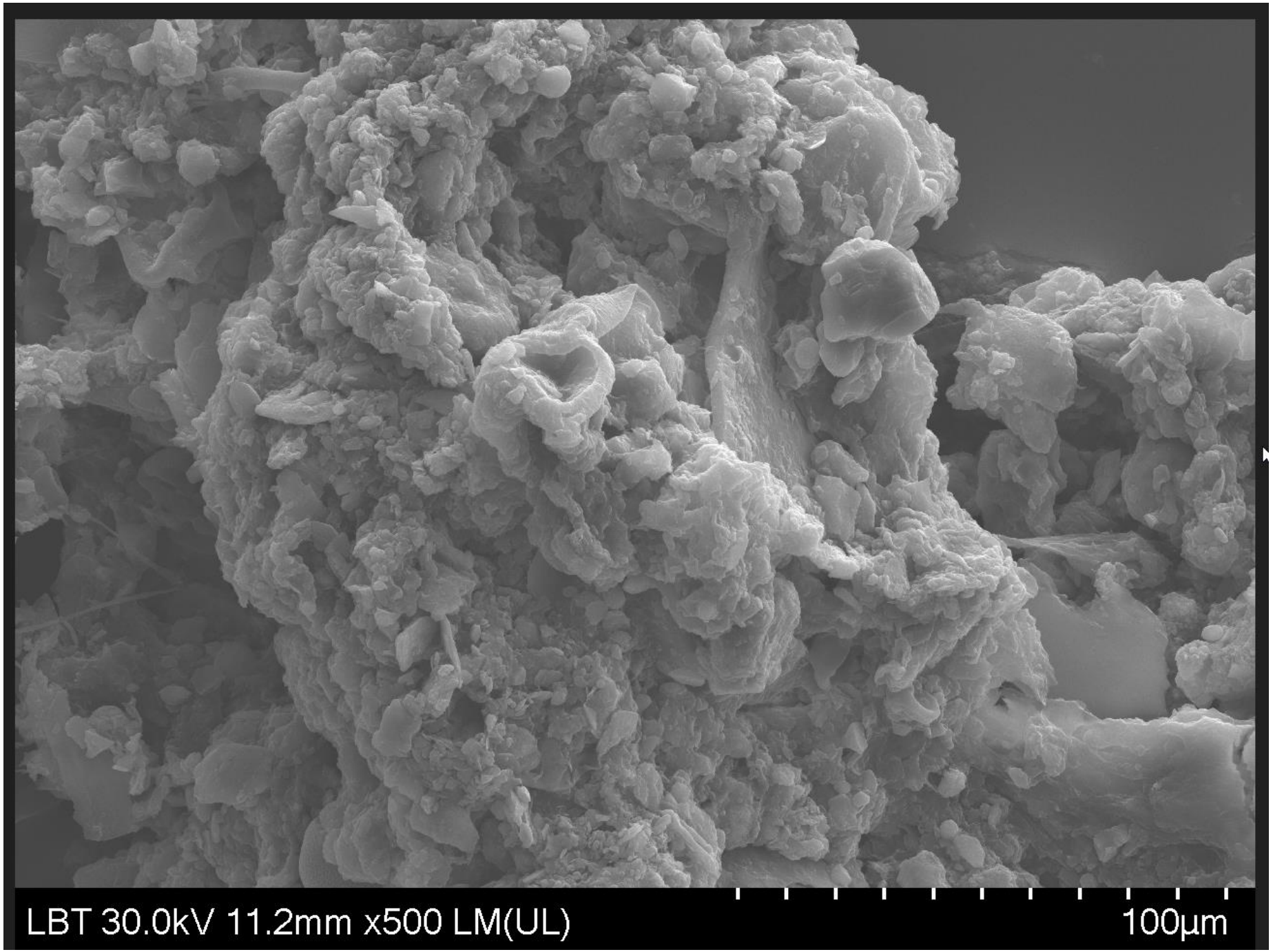


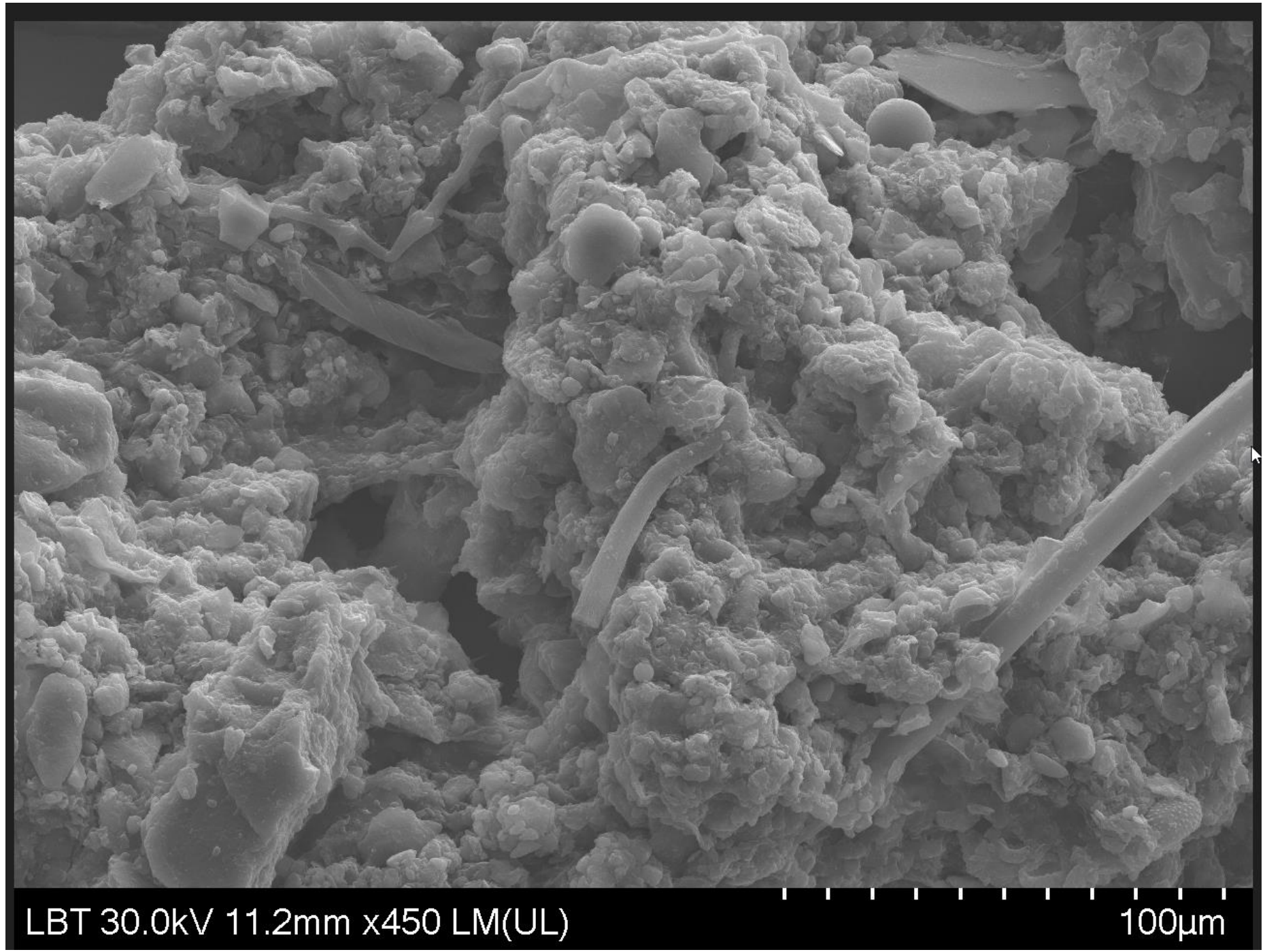
Fe Kα1

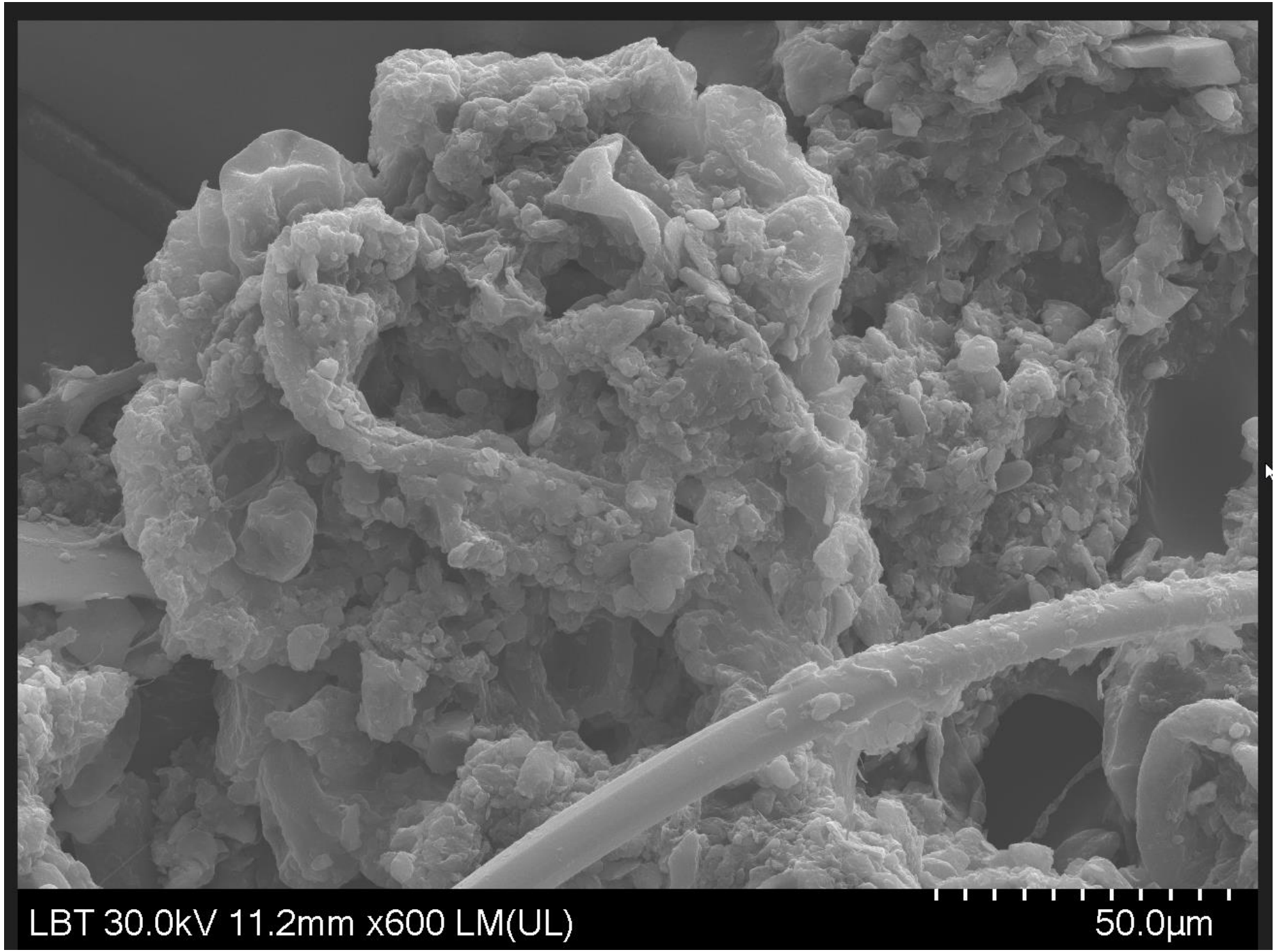


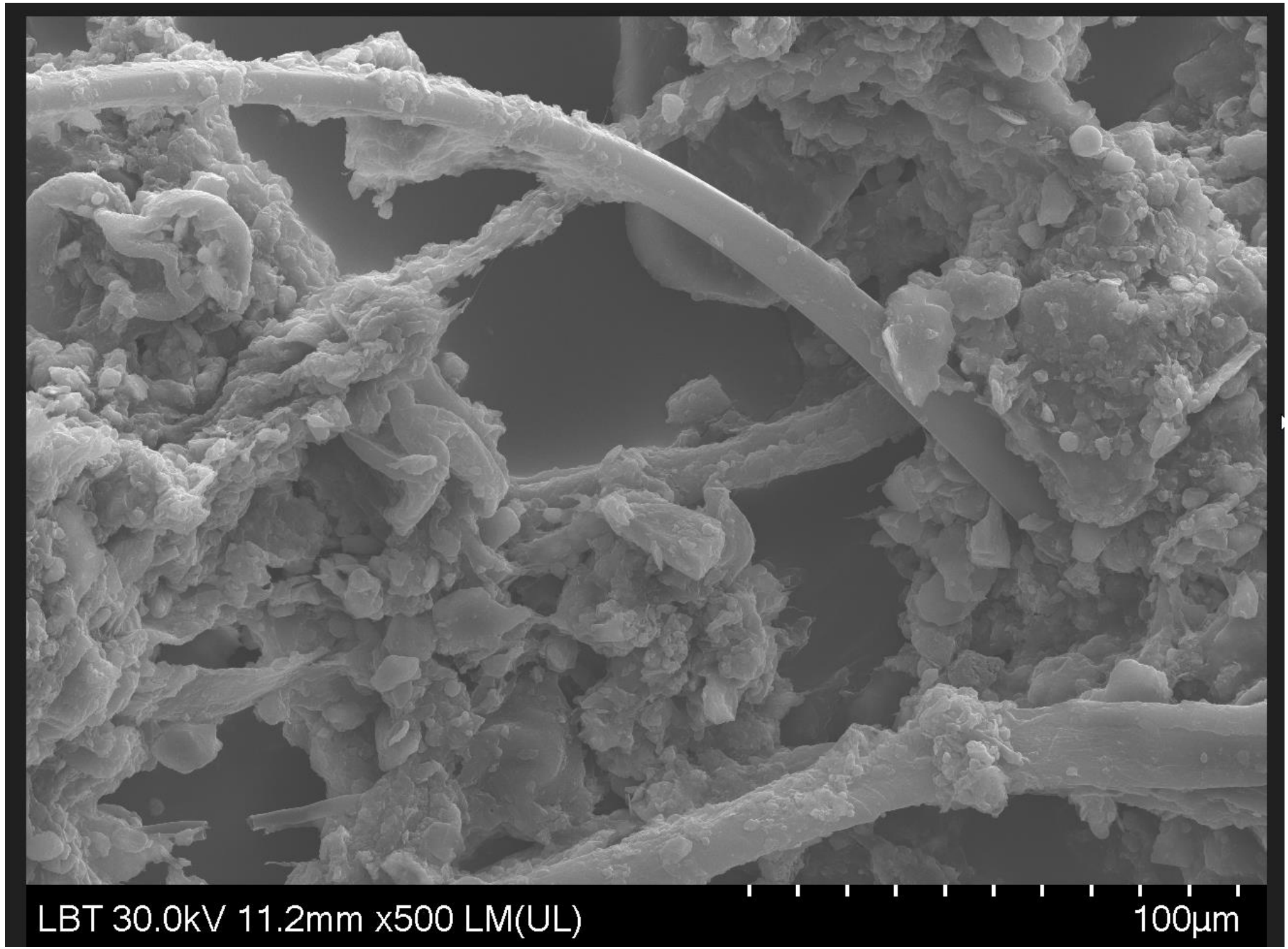

C Kα1_2
100µm
O Kα1
100µm
Al Kα1
100µm
Si Kα1
100µm
K Kα1
100µm
Ca Kα1
100µm

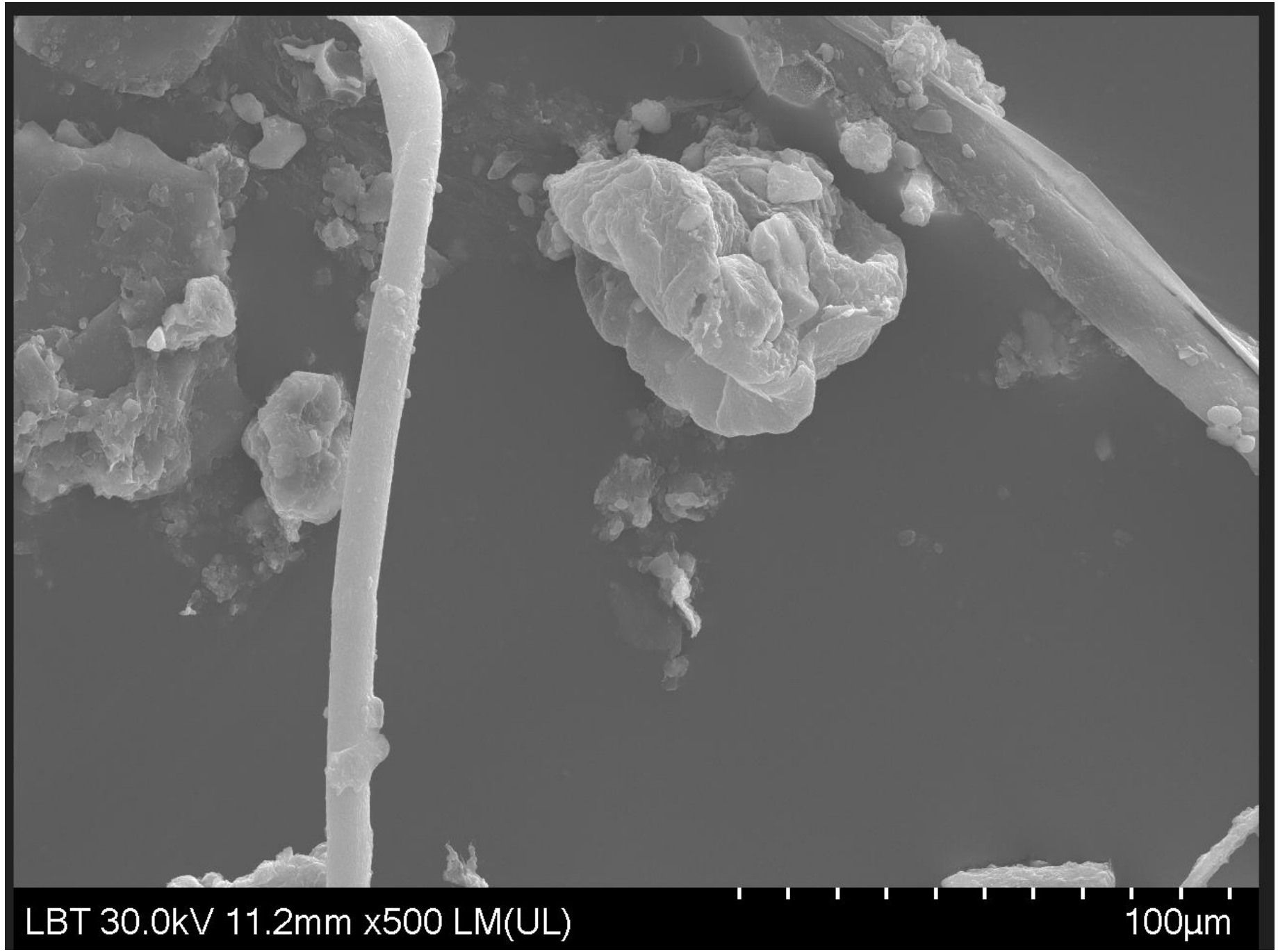

LBT 30.0kV 11.2mm x200 LM(UL)
200µm

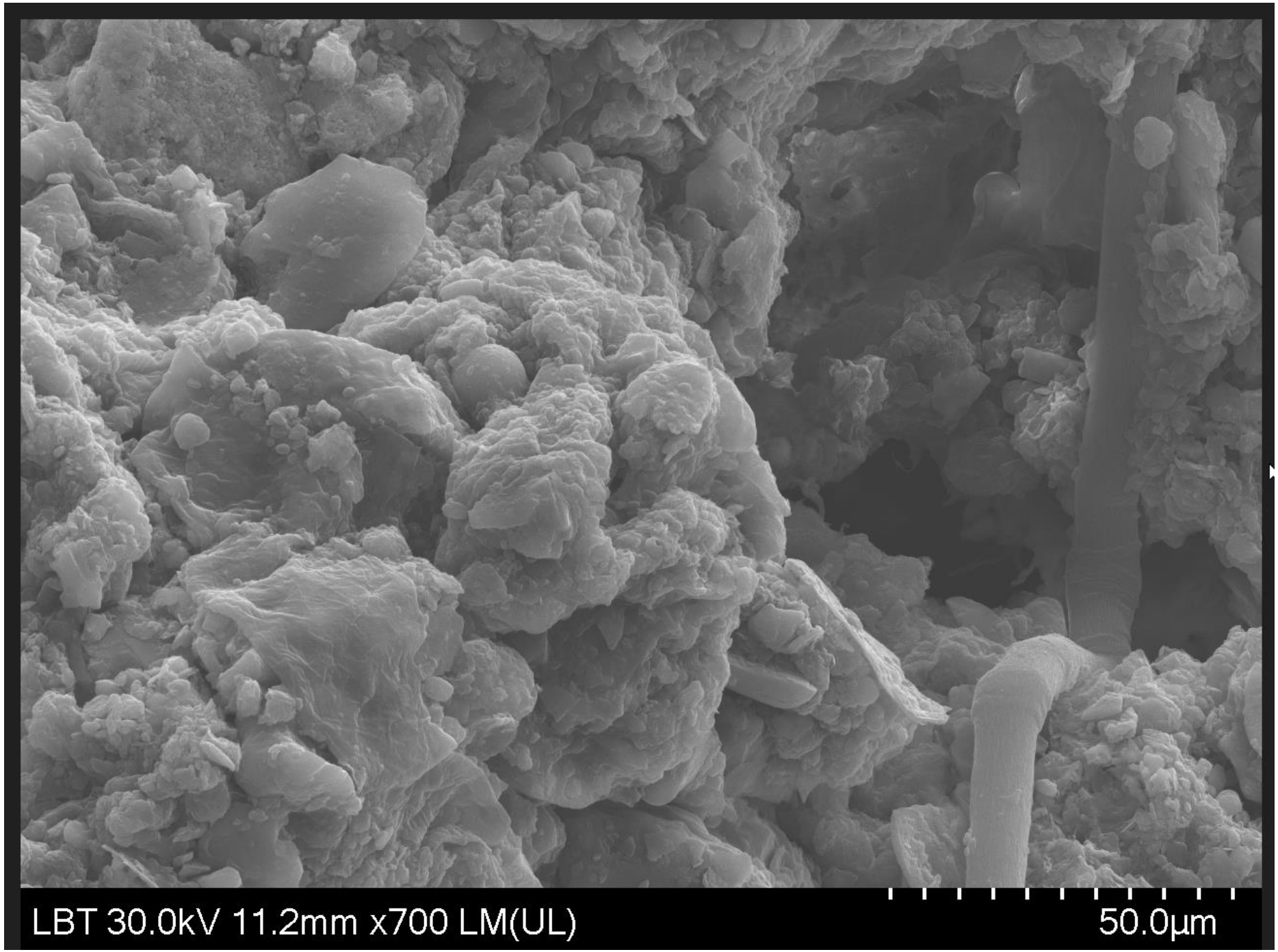

LBT 30.0kV 11.2mm x500 LM(UL)
100µm

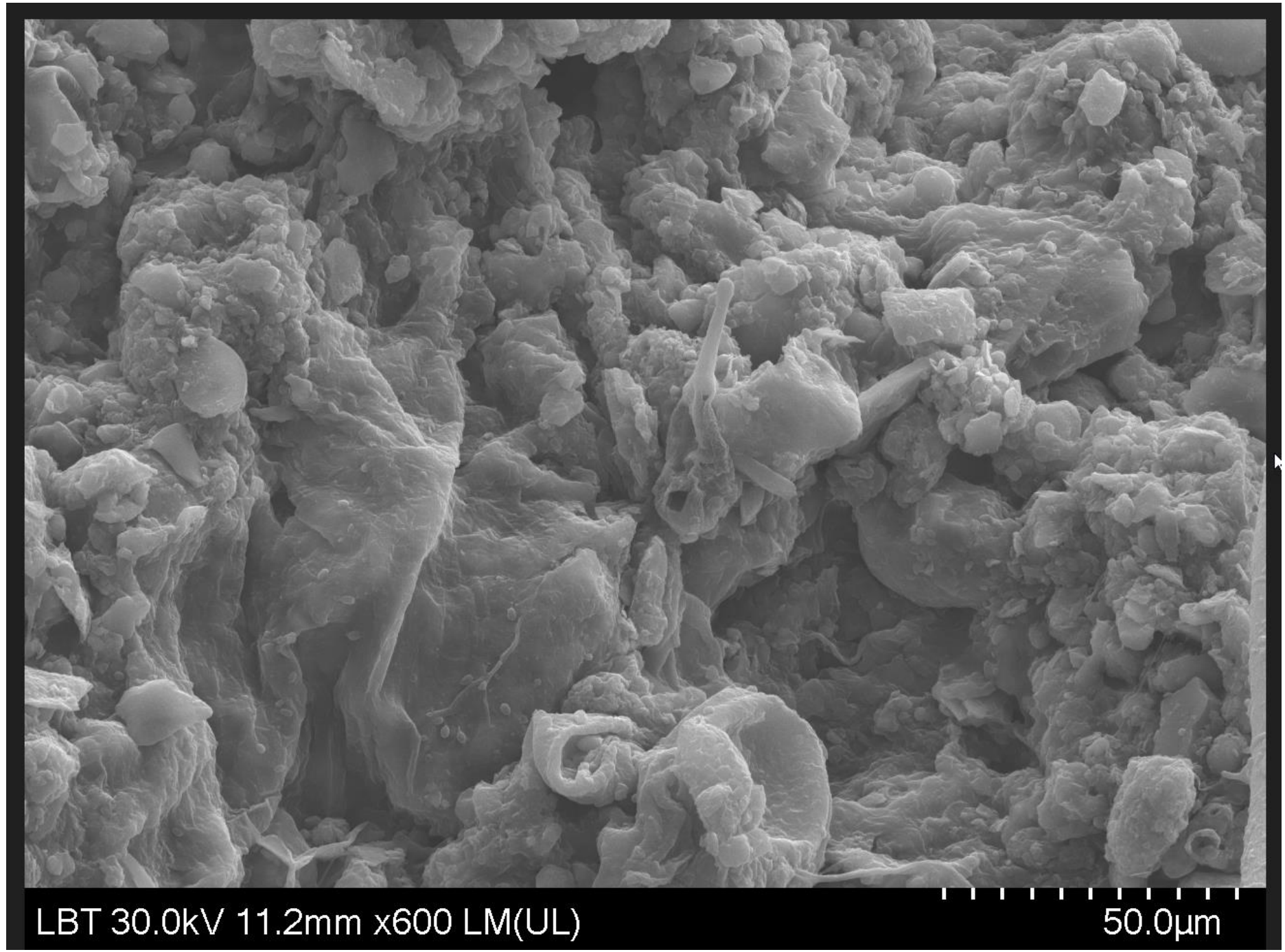

LBT 30.0kV 11.2mm x450 LM(UL)
100µm

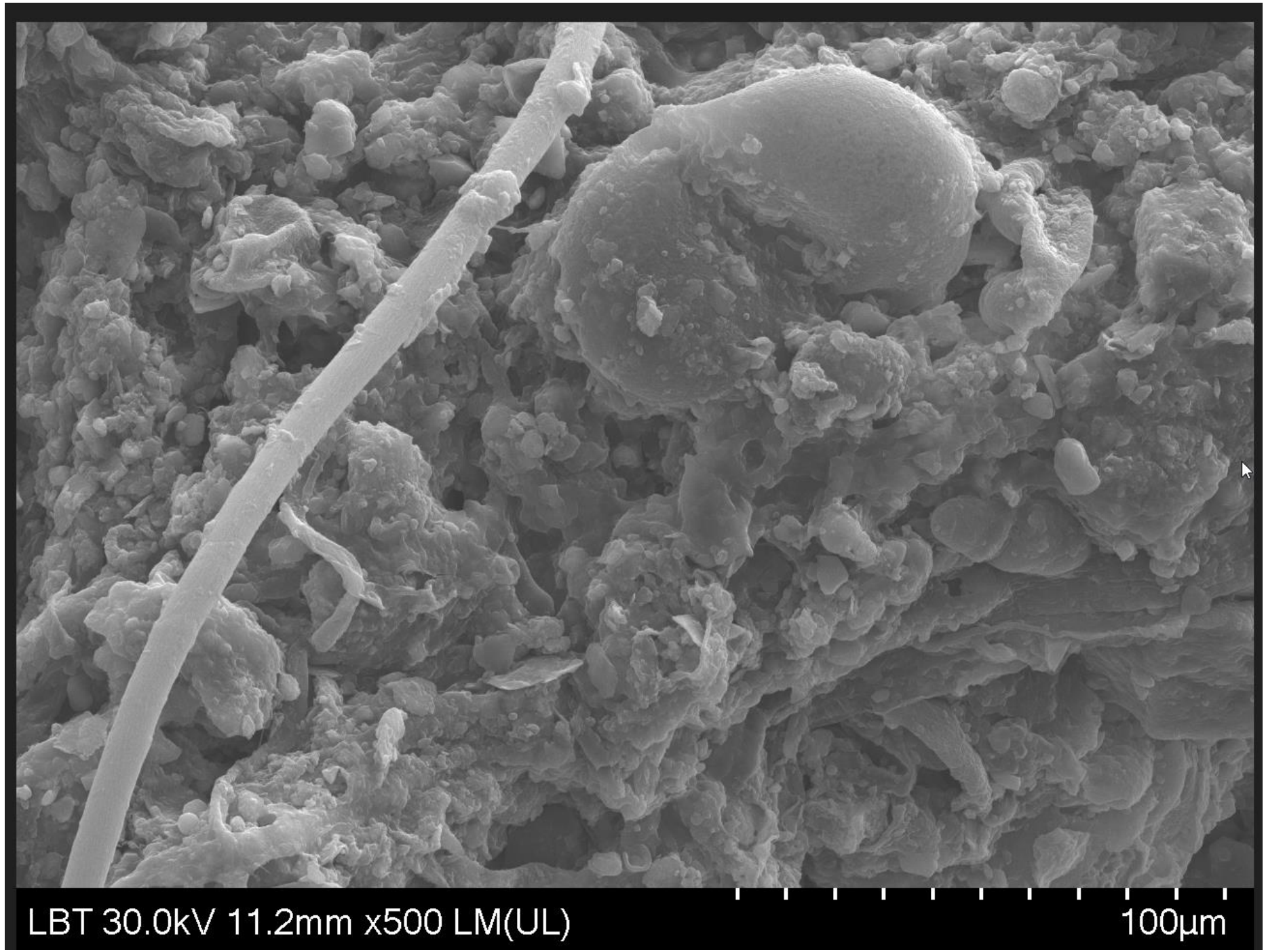

LBT 30.0kV 11.2mm x600 LM(UL)
50.0µm


LBT 30.0kV 11.2mm x500 LM(UL)
100µm

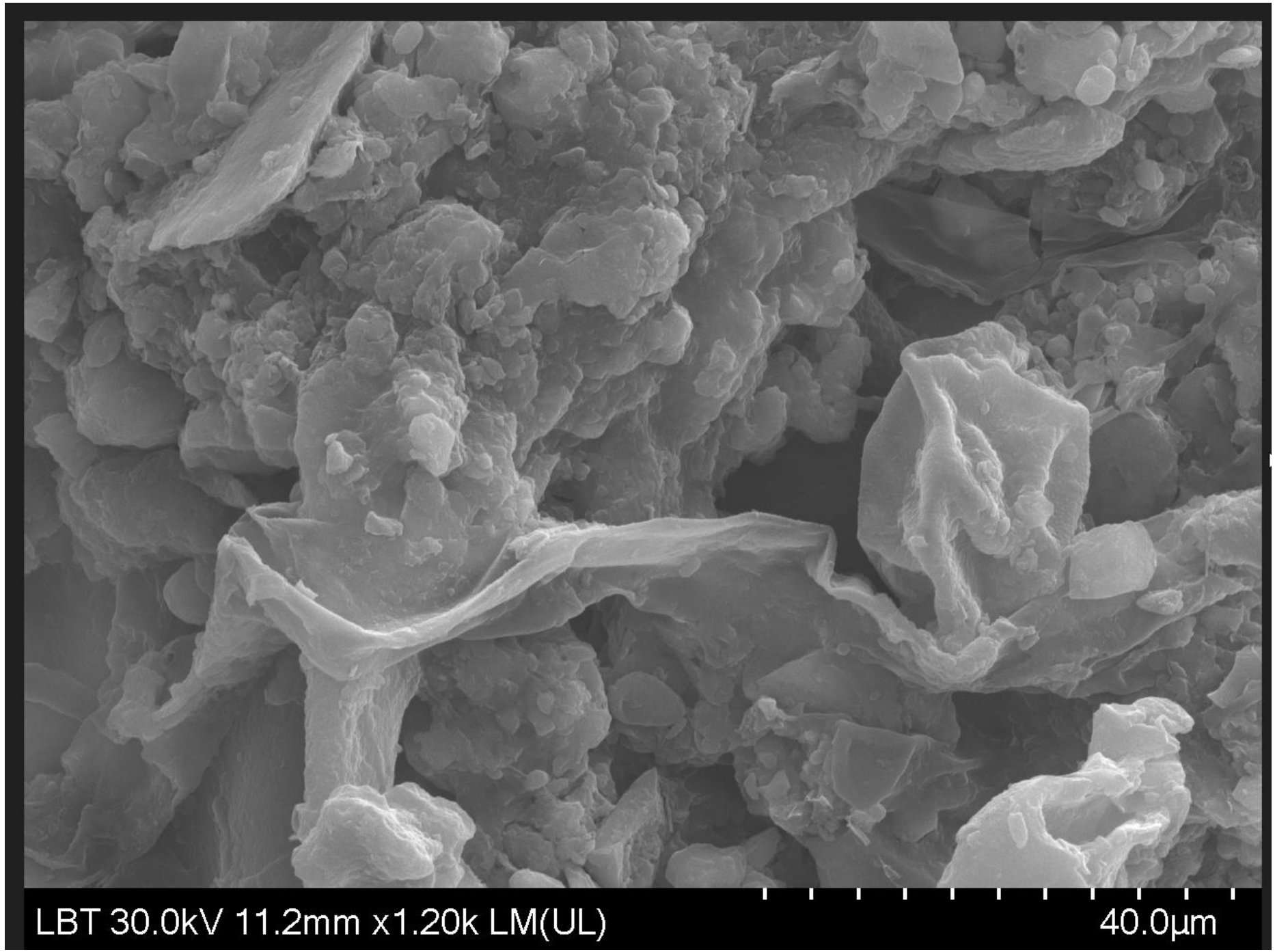

LBT 30.0kV 11.2mm x500 LM(UL)
100µm

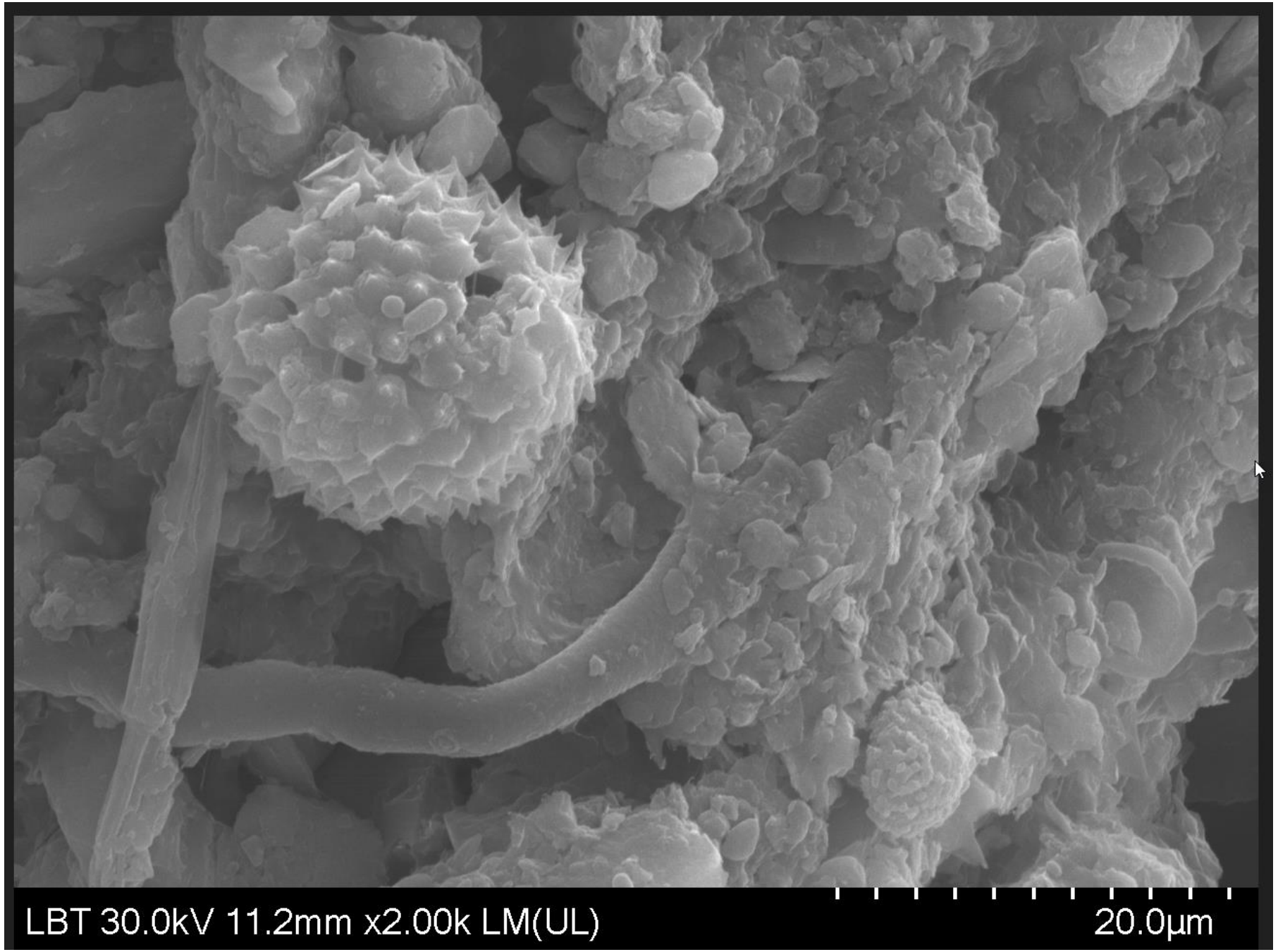

LBT 30.0kV 11.2mm x700 LM(UL)
50.0µm

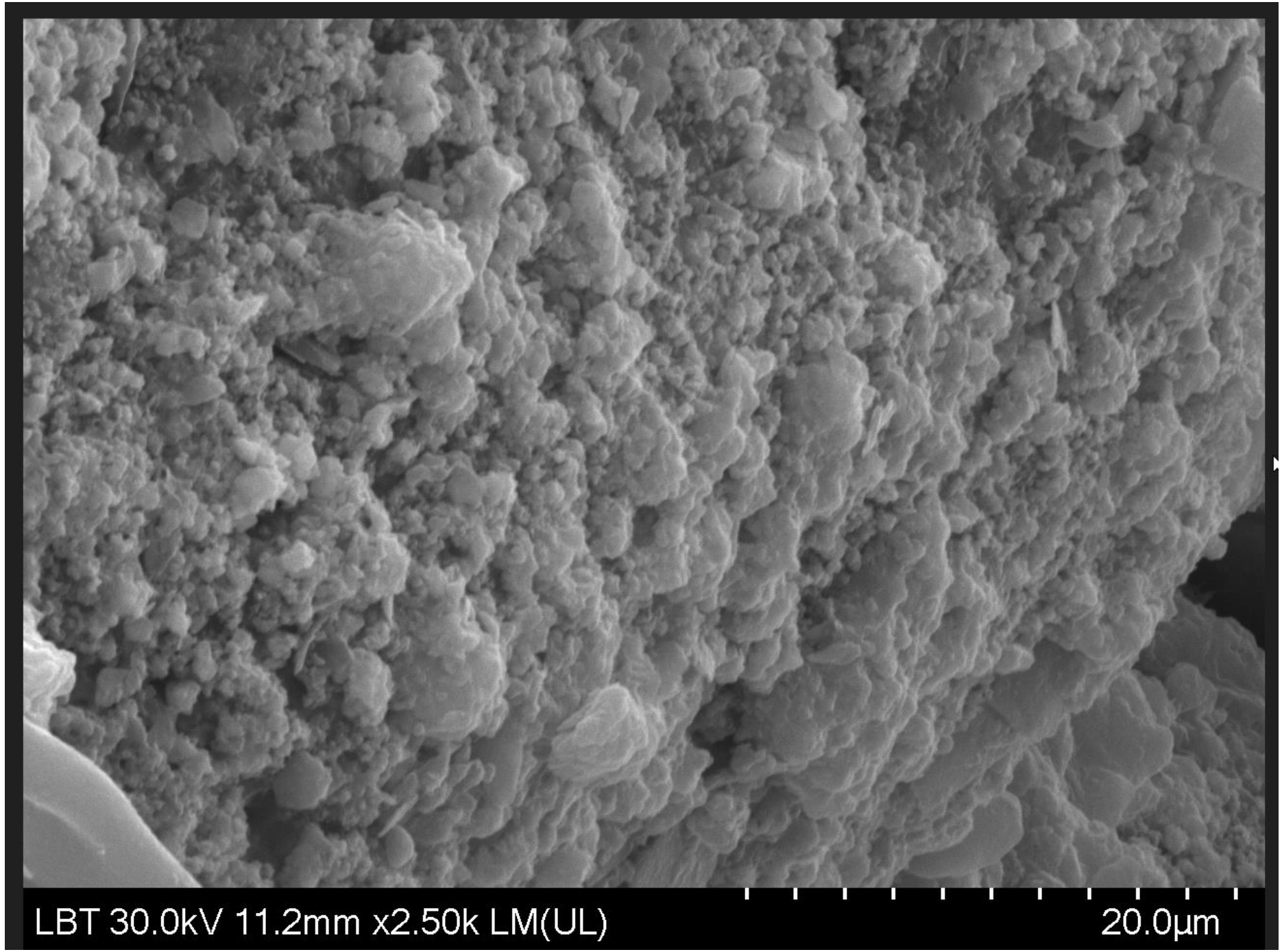

LBT 30.0kV 11.2mm x600 LM(UL)
50.0µm

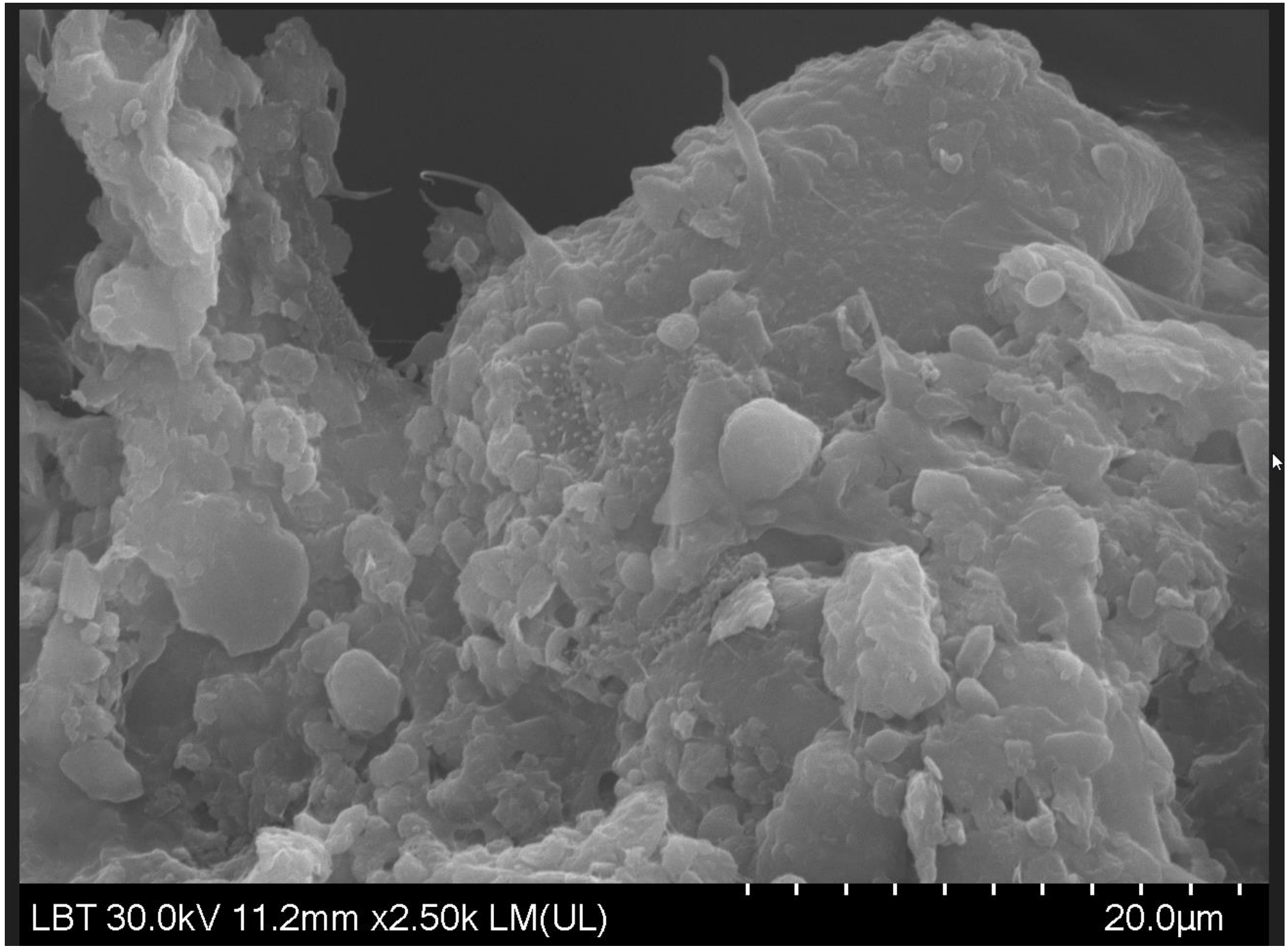

LBT 30.0kV 11.2mm x500 LM(UL)
100µm

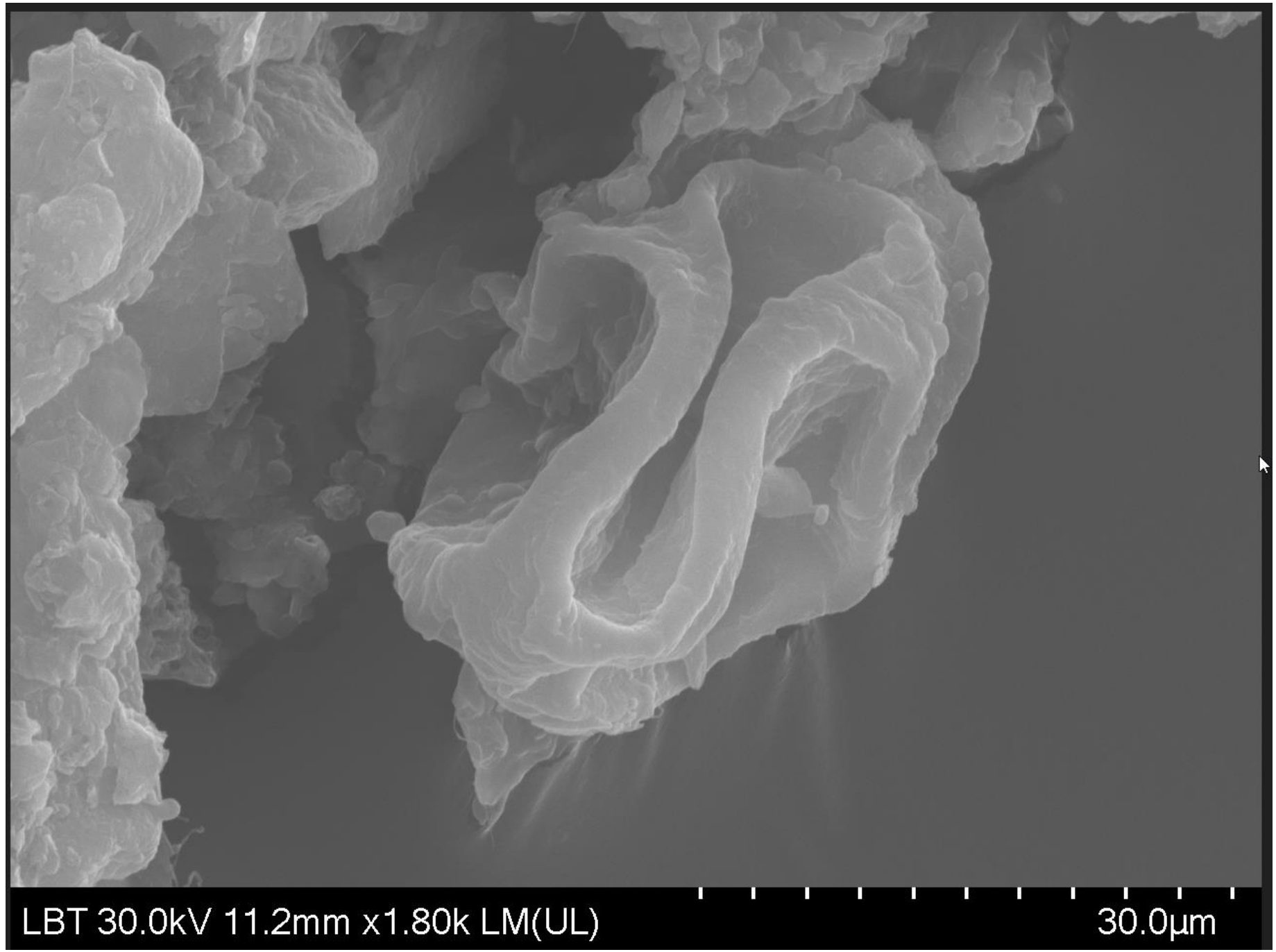

LBT 30.0kV 11.2mm x800 LM(UL)
50.0µm

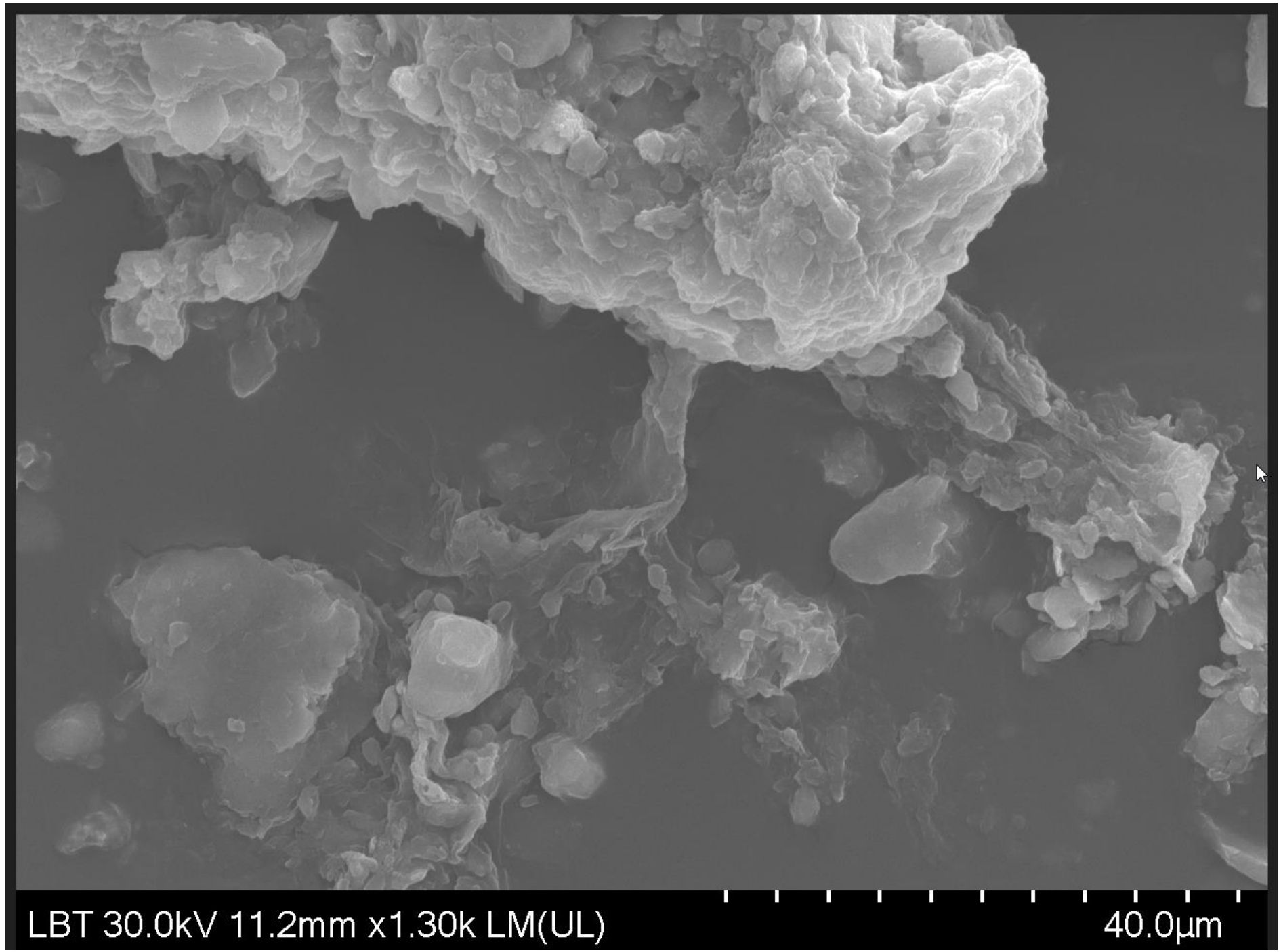

LBT 30.0kV 11.2mm x1.20k LM(UL)
40.0µm

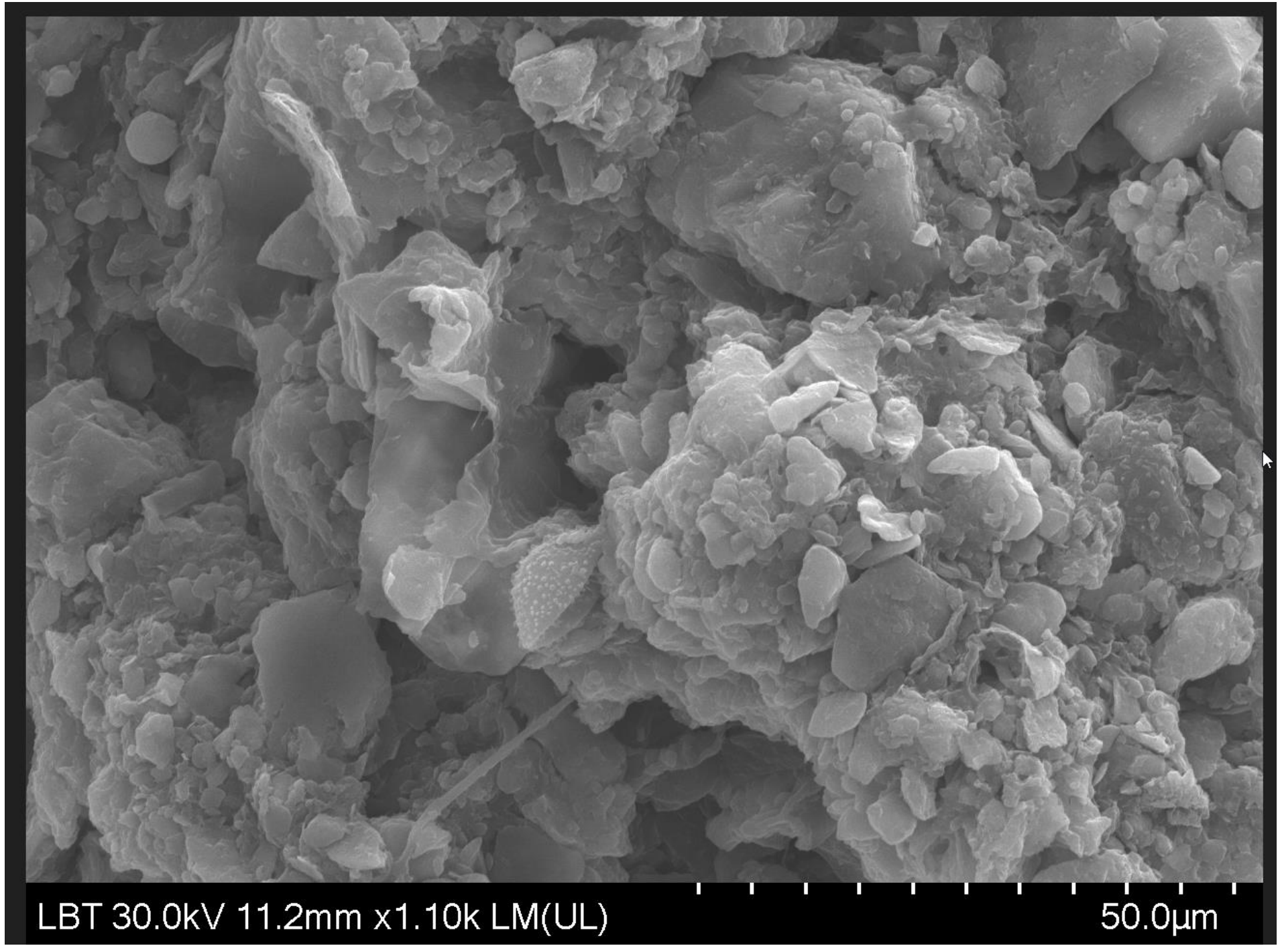

LBT 30.0kV 11.2mm x2.00k LM(UL)
20.0µm

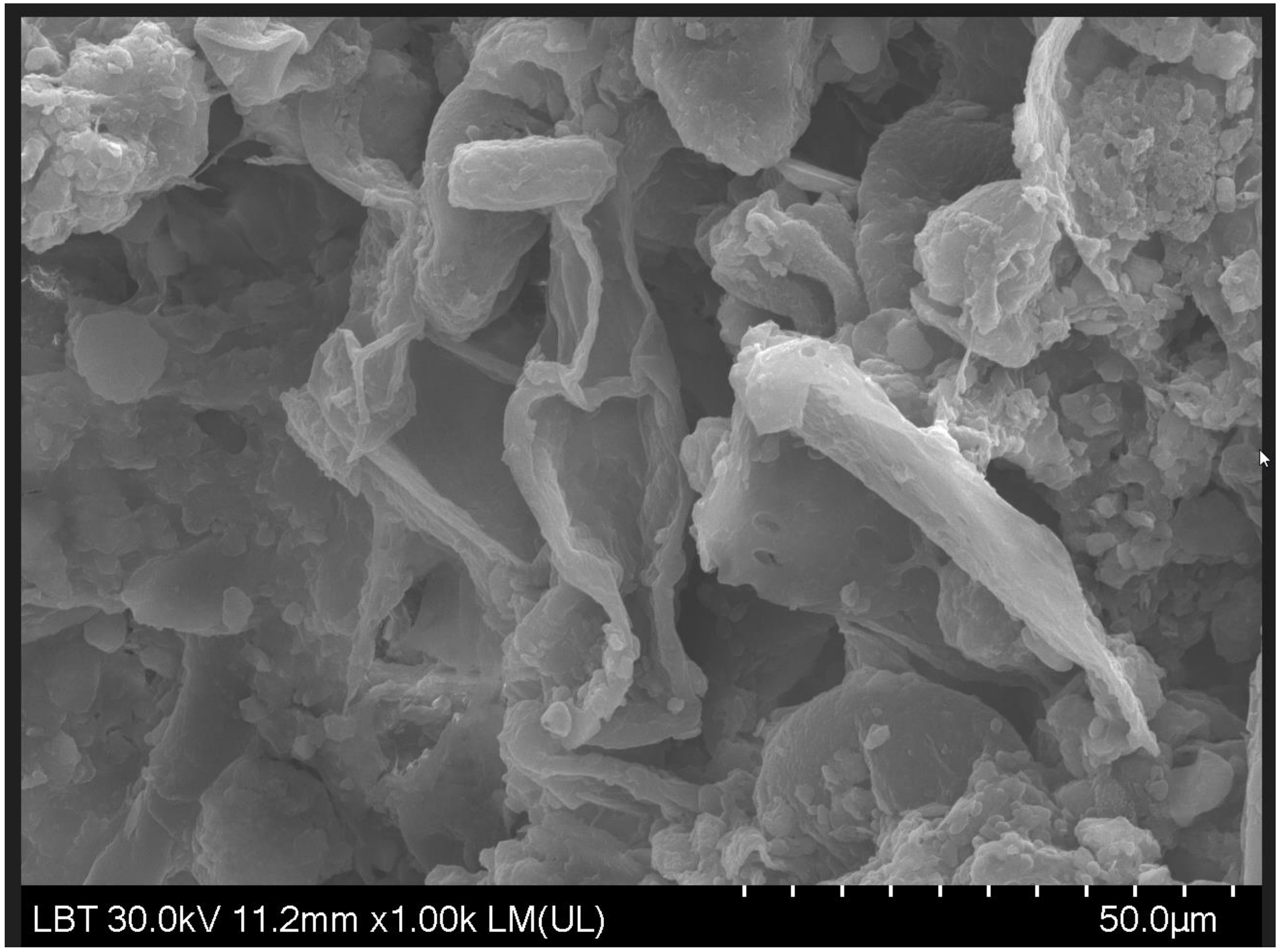

LBT 30.0kV 11.2mm x2.50k LM(UL)
20.0µm


LBT 30.0kV 11.2mm x2.50k LM(UL)
20.0µm


LBT 30.0kV 11.2mm x1.80k LM(UL)
30.0µm


LBT 30.0kV 11.2mm x1.30k LM(UL)
40.0µm


LBT 30.0kV 11.2mm x1.10k LM(UL)
50.0µm


LBT 30.0kV 11.2mm x1.00k LM(UL)
50.0µm

ANALIZA SEMICANTITATIVA A ELEMENTELOR DIN APA DE PLOAIE (FARA SEDIMENT-FILTRATĂ)

In atentia:

d-nei Dr. GEANINA HAGIMA

Date de contact:

E-mail: [redacted]

Tel: [redacted]

Alaturat va inaintam **Raportul de incercare** [redacted] privind determinarea parametrilor solicitati de Dvs., prin comanda cu nr. intrare [redacted]**/18.07.2023** pentru proba de apa trimisa de dvs.

Solicitant: P.F. ([redacted] Dr. Geanina Hagima)

Date de contact: [redacted]

Tel: [redacted]

Natura probei: Apa

Solicitarea analizei: determinari concentratii metale

Elemente		Concentratii*
Minerale [mg/L]	Na	1.824
	Mg	0.584
	K	0.530
	Ca	2.271
Metale grele [µg/L]	Al	**20.554**
	Cr	0.089
	Mn	0.795
	Fe	**11.392**
	Co	0.020
	Ni	2.551
	Cu	5.101
	Zn	**5.516**
Metale toxice [µg/L]	As	**0.111**
	Cd	**<0.001**
	Sn	0.0012
	Hg	**<0.001**
	Pb	0.177
Pamanturi rare [µg/L]	Sc	<0.001
	La	0.006
	Ce	0.017
	Pr	0.003
	Nd	<0.001
	Sm	<0.001
	Eu	0.001
	Gd	<0.001
	Tb	0.001

	Dy	<0.001
	Ho	<0.001
	Er	<0.001
	Tm	<0.001
	Yb	<0.001
	Lu	0.0001
Elemente critic tehnologice [µg/L]	Te	<0.001
	Ge	<0.001
	Ga	0.010
	In	0.033
	Nb	0.022
	Ta	0.0017

Elemente din grupa platinei [µg/L]	Pt	<0.001
	Pd	<0.001
	Os	<0.001
	Ir	<0.001
	Ru	<0.001
Metale alcaline, alcalino-pamantoase [µg/L]	Li	**0.206**
	Cs	**<0.001**
	Rb	<0.001
	Be	0.111
	Ba	**3.732**
	Sr	**4.757**

Metale de tranzitie, post-tranzitie [µg/L]	[illegible]	[illegible]
	Zr	<0.001
	Hf	<0.001
	W	0.032
	Au	0.003
	Ag	**<0.001**
	Re	<0.001
	Ti	3.169
	V	0.186
	Mo	<0.001
	Bi	0.040
	Tl	<0.001