Microplastic characterisation in fluvial and marine sediments: the case of the Gulf of Tigullio (north-western Italy)

Sara Spadoni, *Laura Cutroneo, Cristina Carbone, Sirio Consani, Greta Vagge, Laura Canesi, Marco Capello, Mario Petrillo*

DISTAV, University of Genoa, 26 Corso Europa, I-16132, Genoa, Italy

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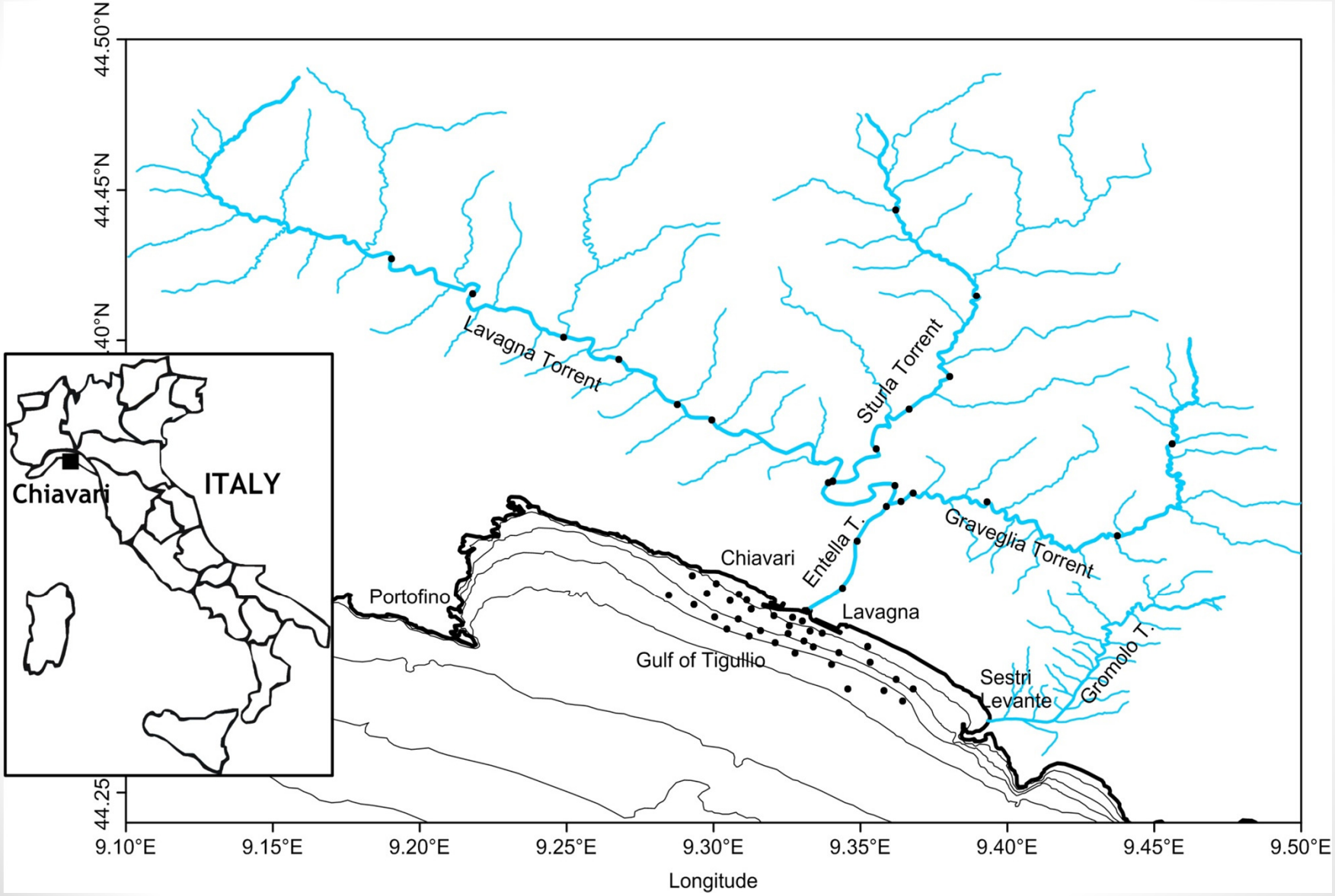
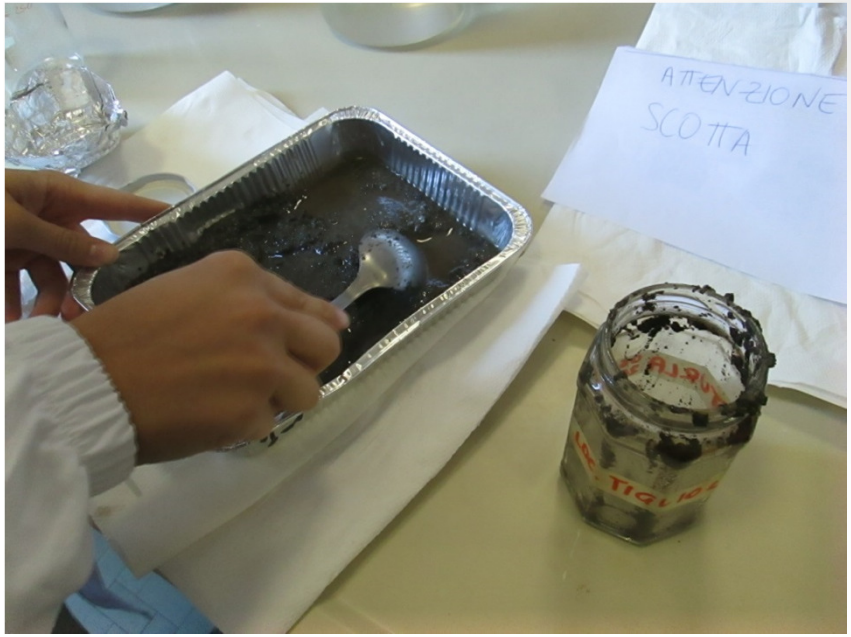
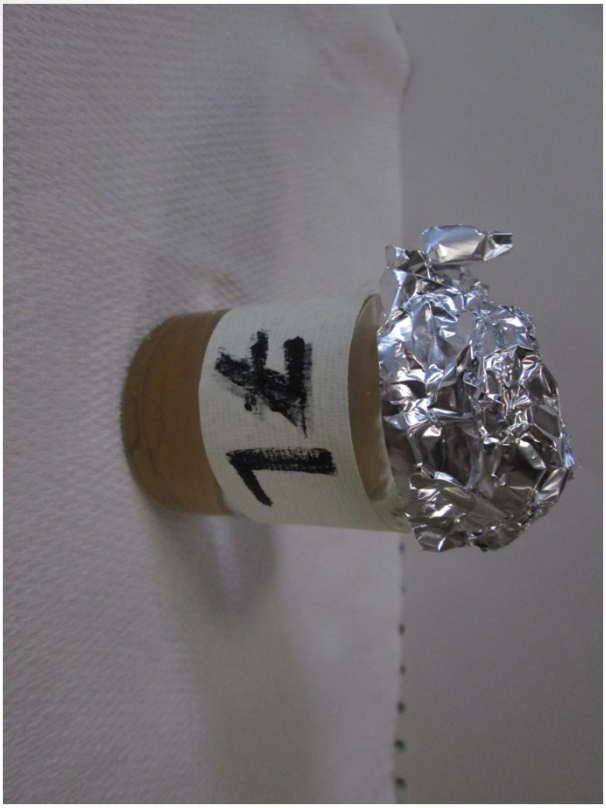
STUDY AREA


44.50°N
44.45°N
40°N
44.25
9.10°E
9.15°E
9.20°E
9.25°E
9.30°E
9.35°E
9.40°E
9.45°E
9.50°E
Longitude
Lavagna Torrent
Sturla Torrent
Entella T.
Graveglia Torrent
Gromolo T.
Chiavari
Portofino
Lavagna
Gulf of Tigullio
Sestri Levante
ITALY
Chiavari

METHOD

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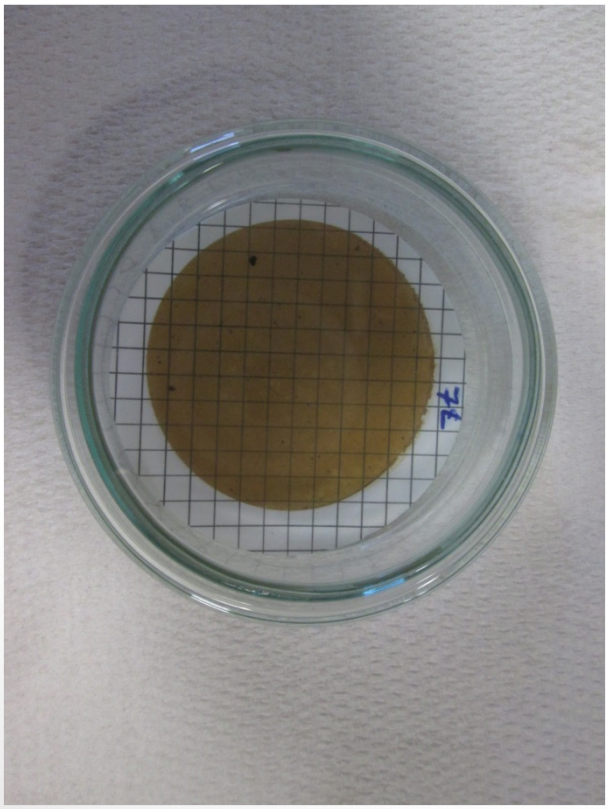
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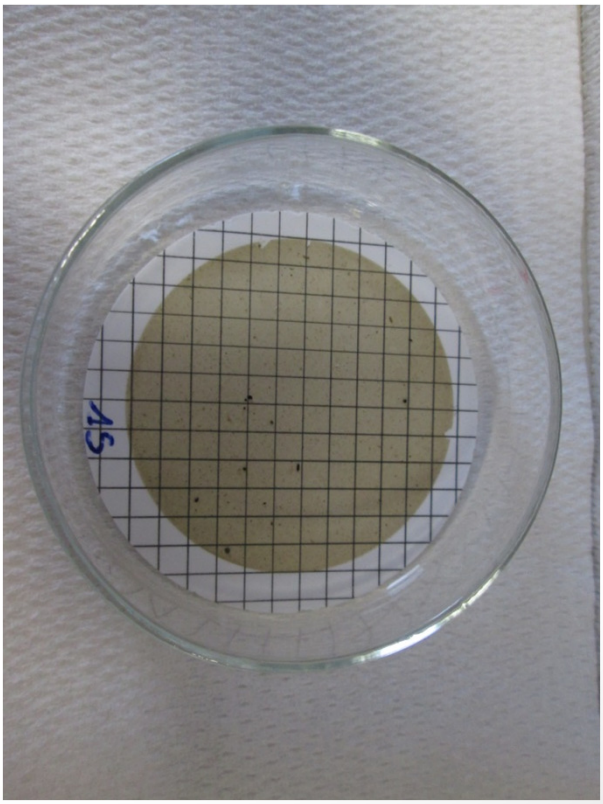
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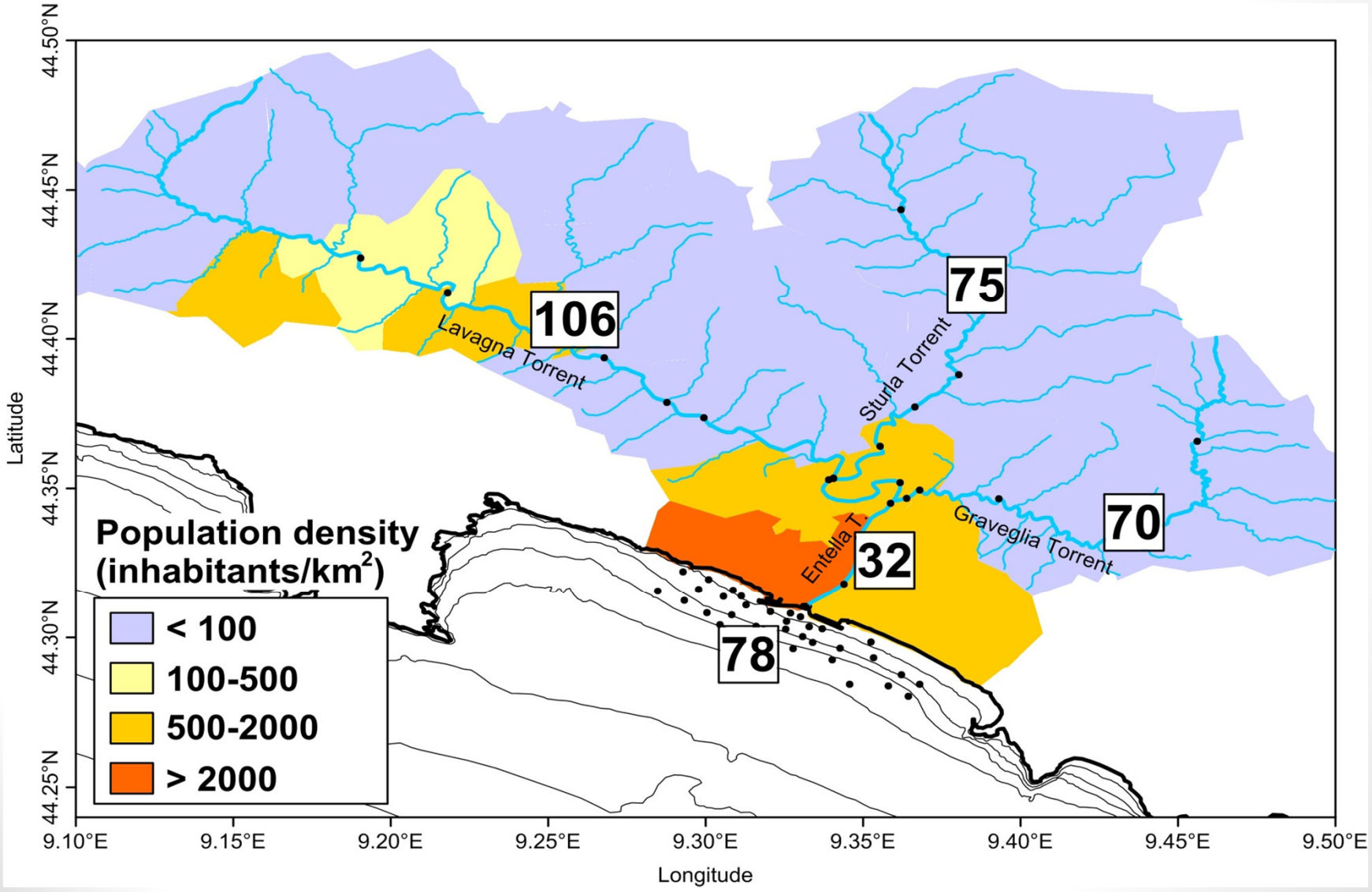
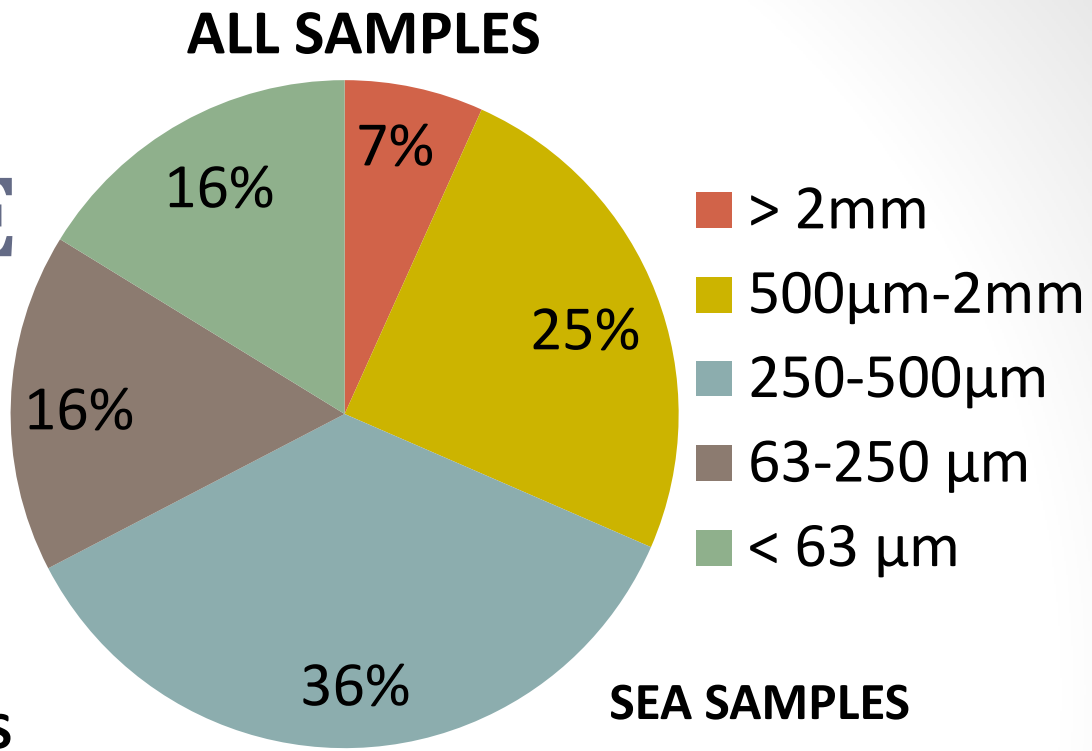
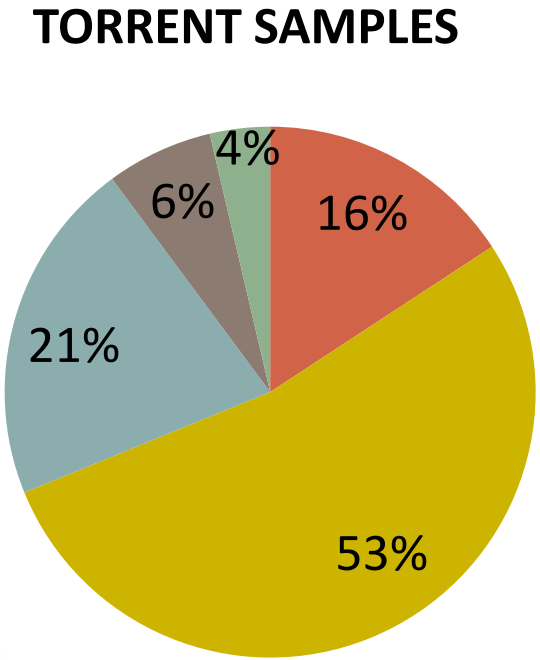
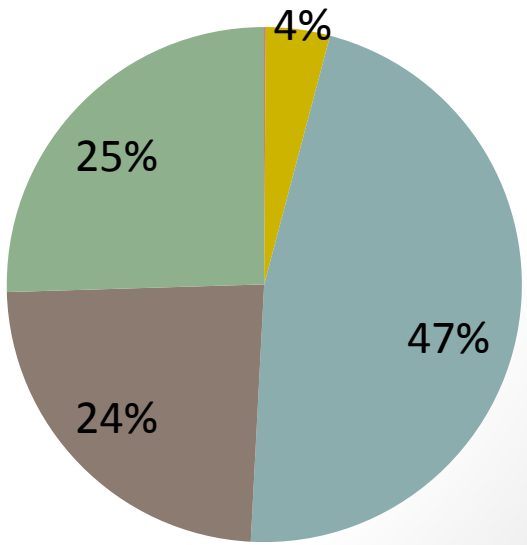
MEAN NUMBER OF MICROPLASTICS



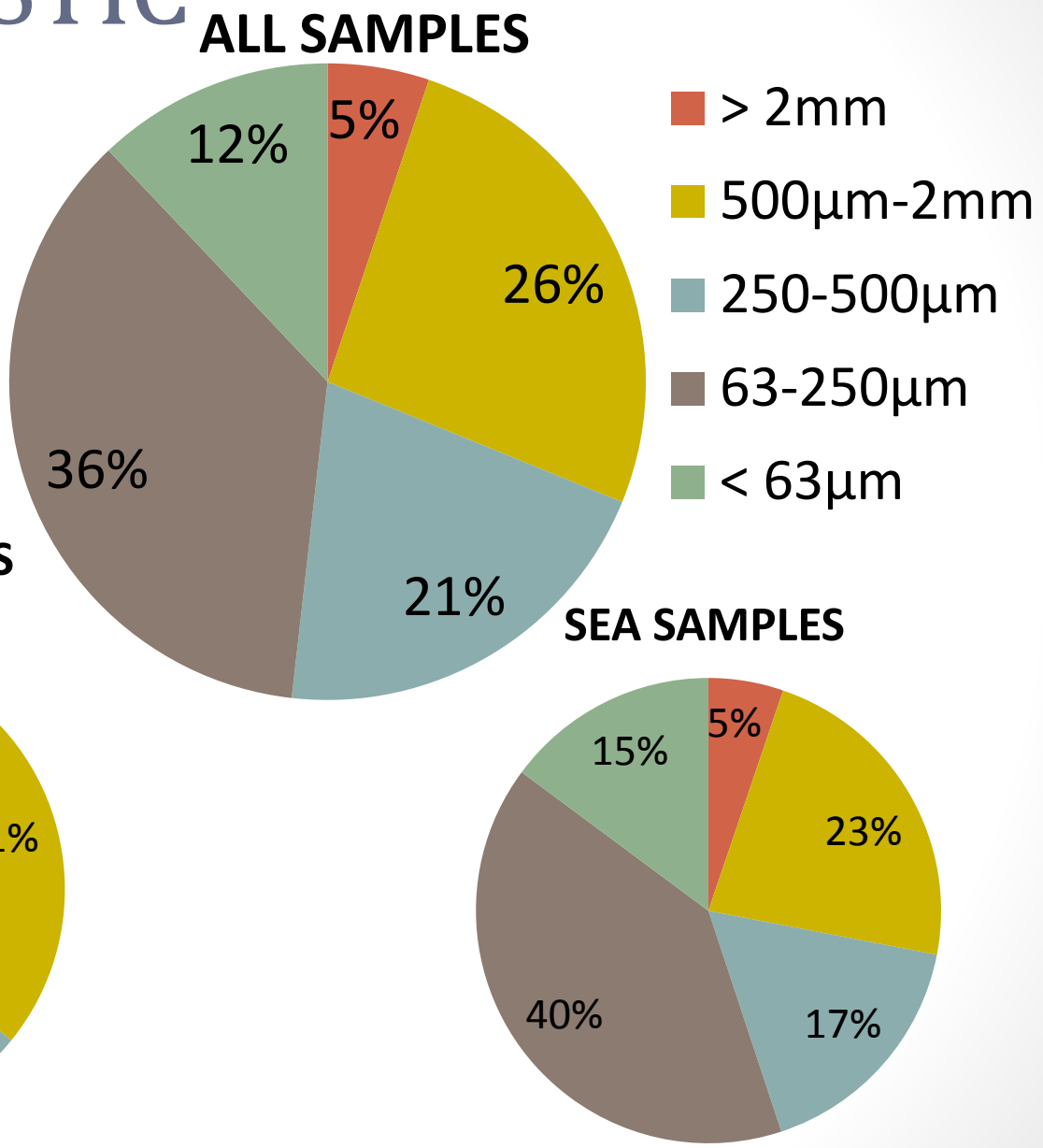
SEDIMENT GRAIN SIZE



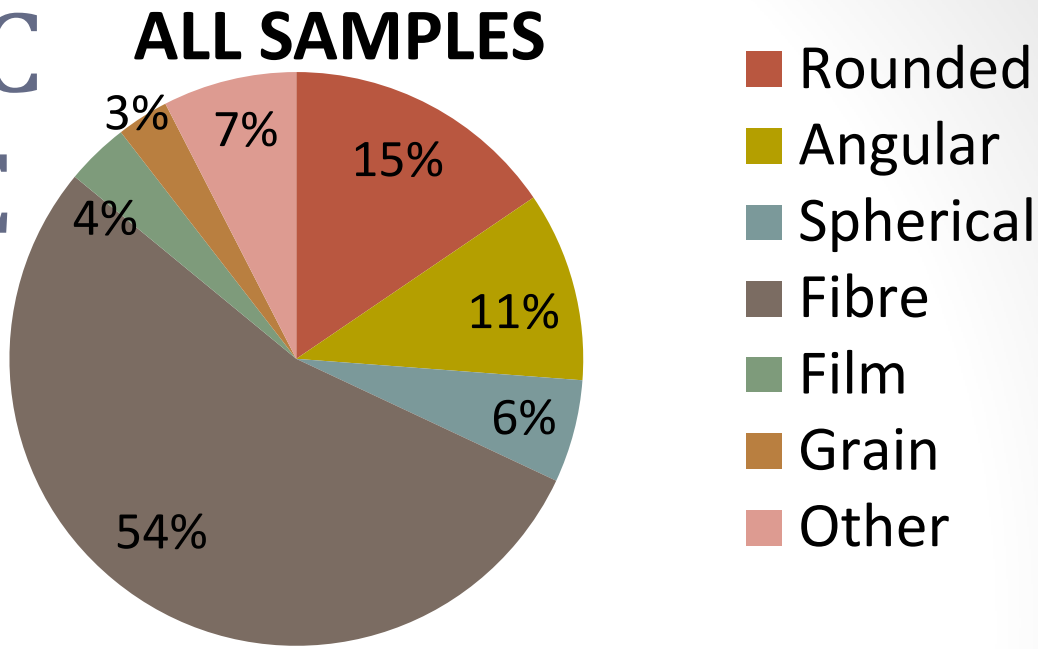


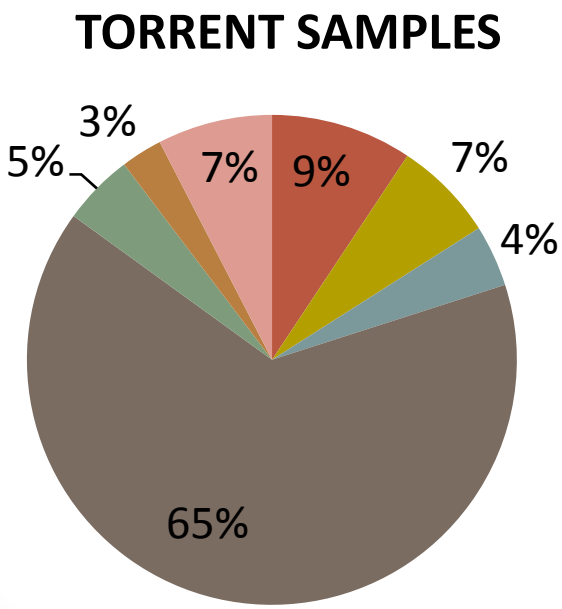


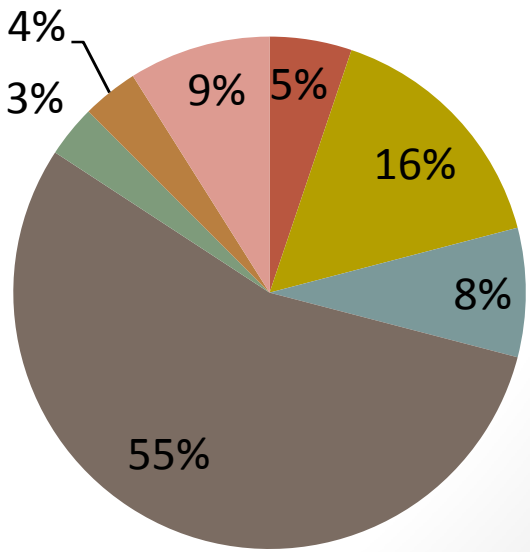
MICROPLASTIC SIZE



MICROPLASTIC TYPE & SHAPE







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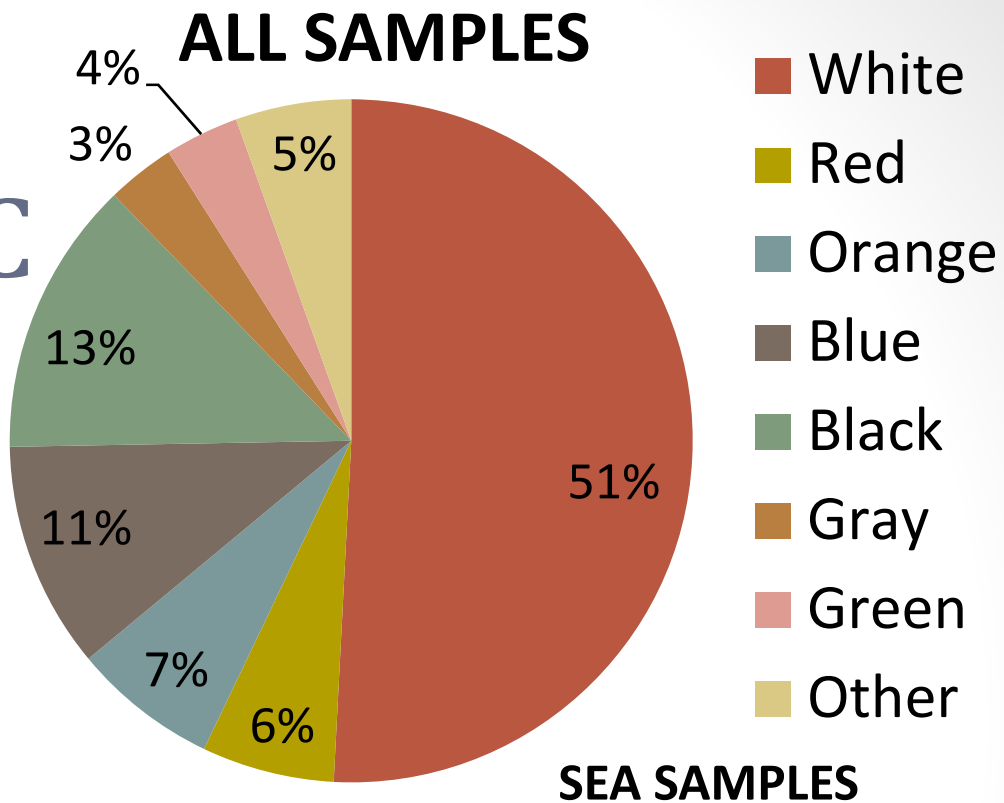
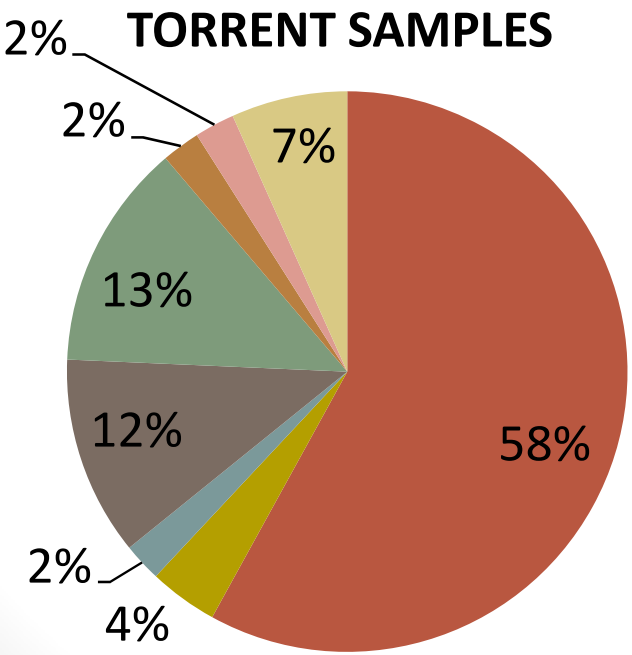
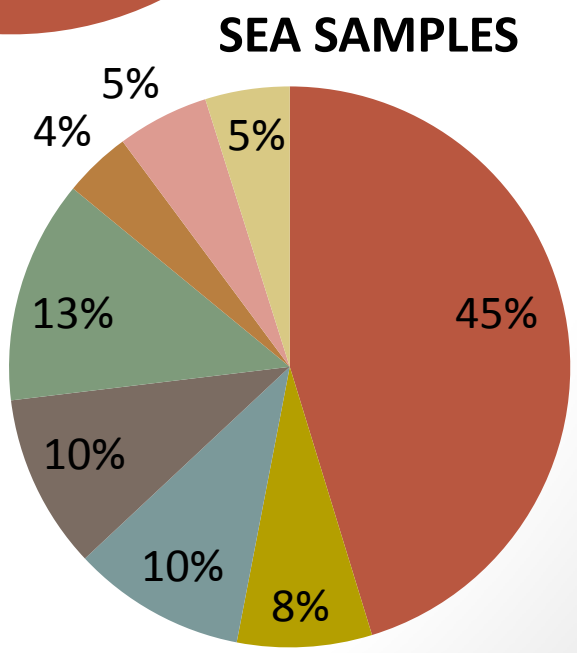
MICROPLASTIC COLOR







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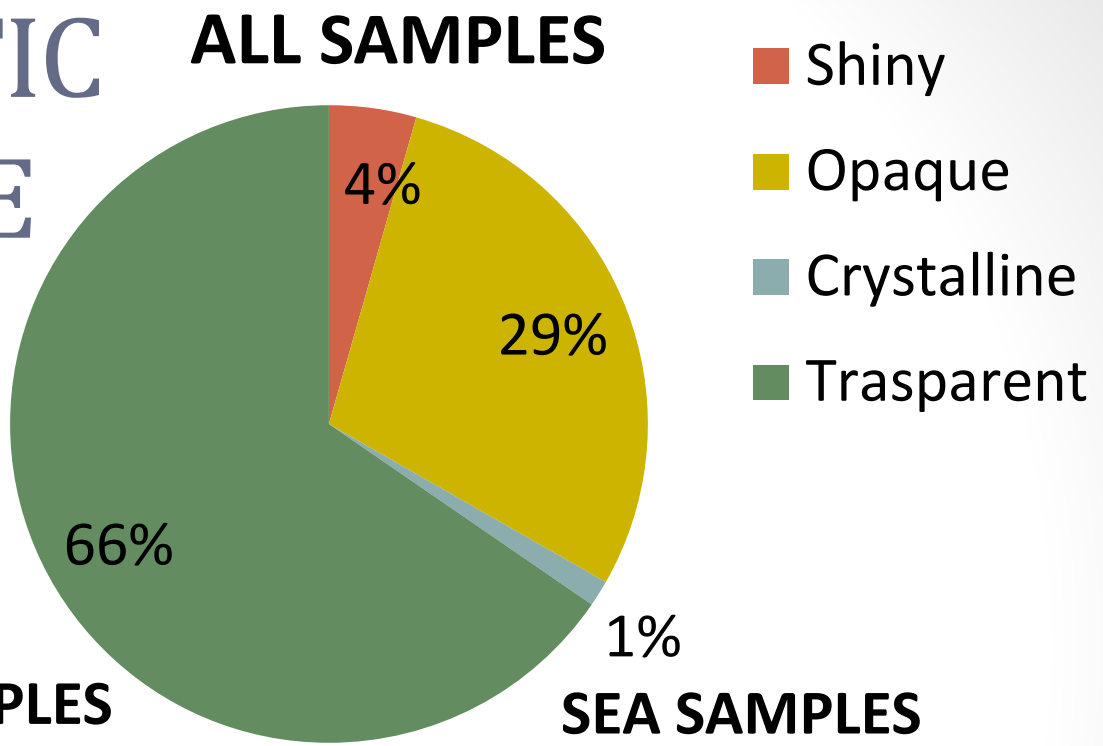
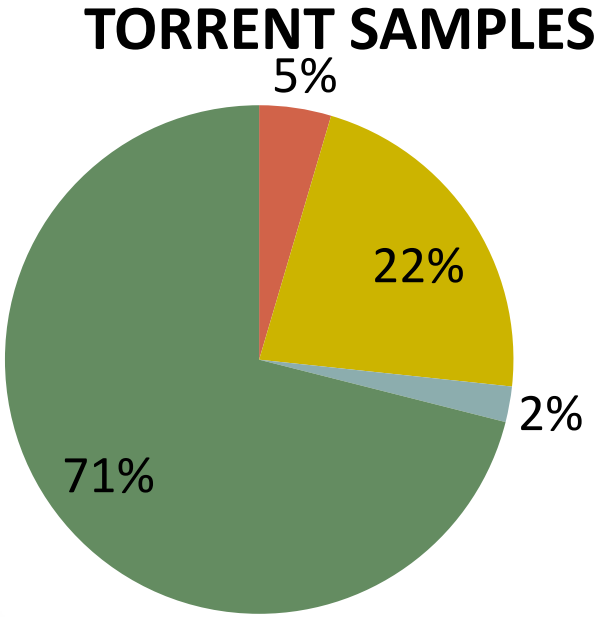
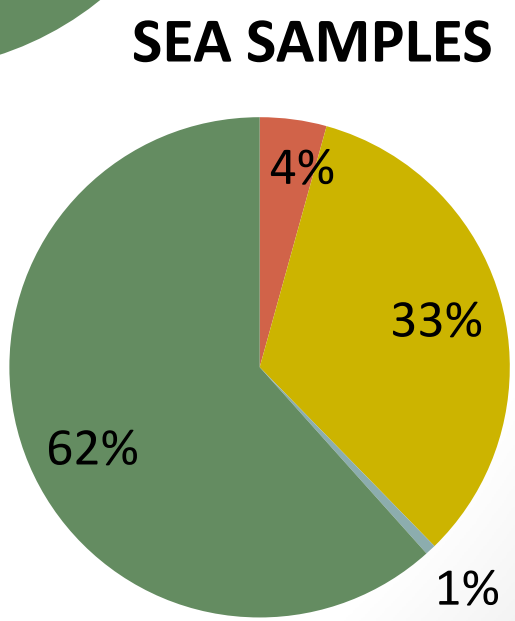
MICROPLASTIC APPEARANCE







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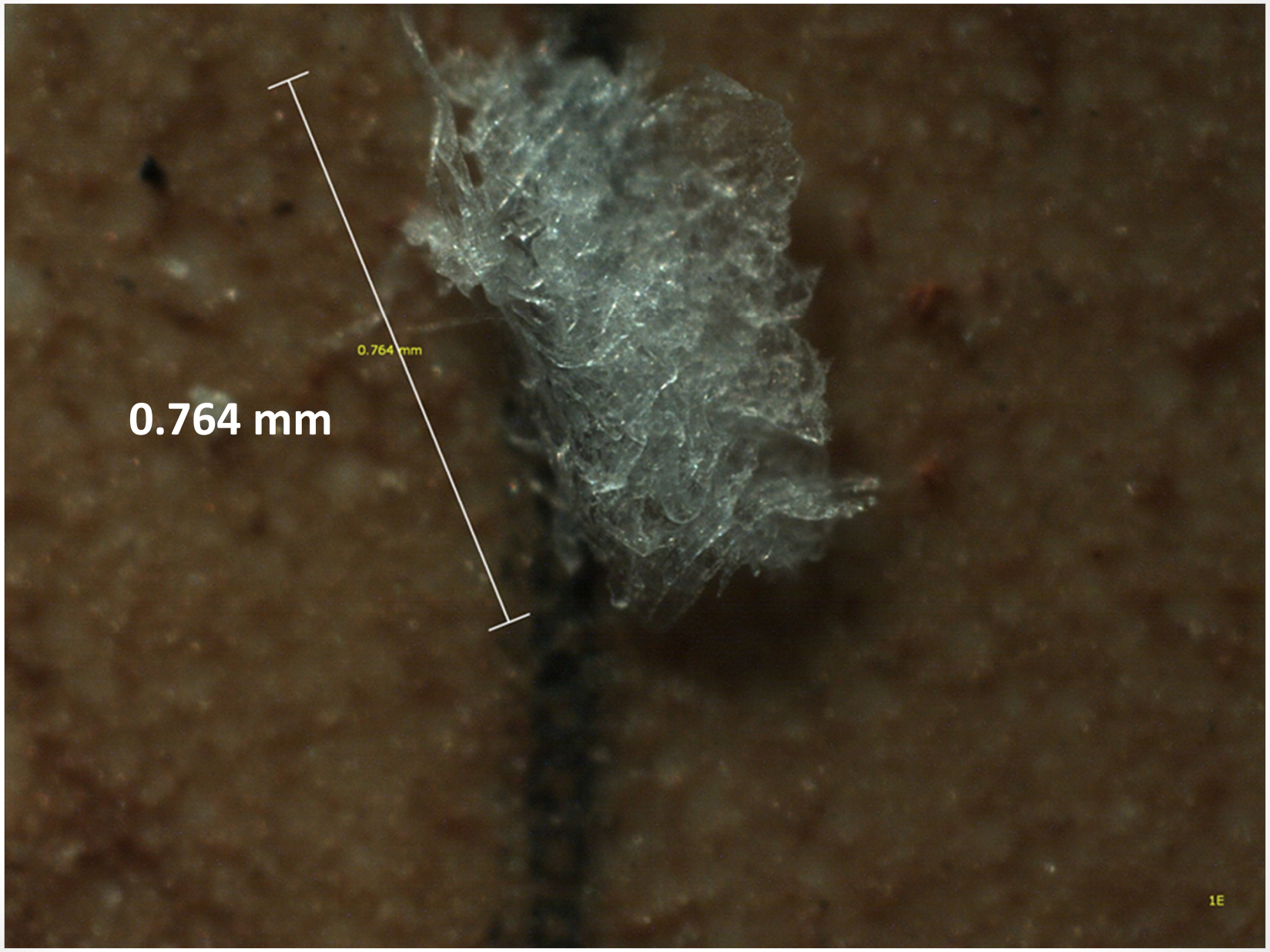
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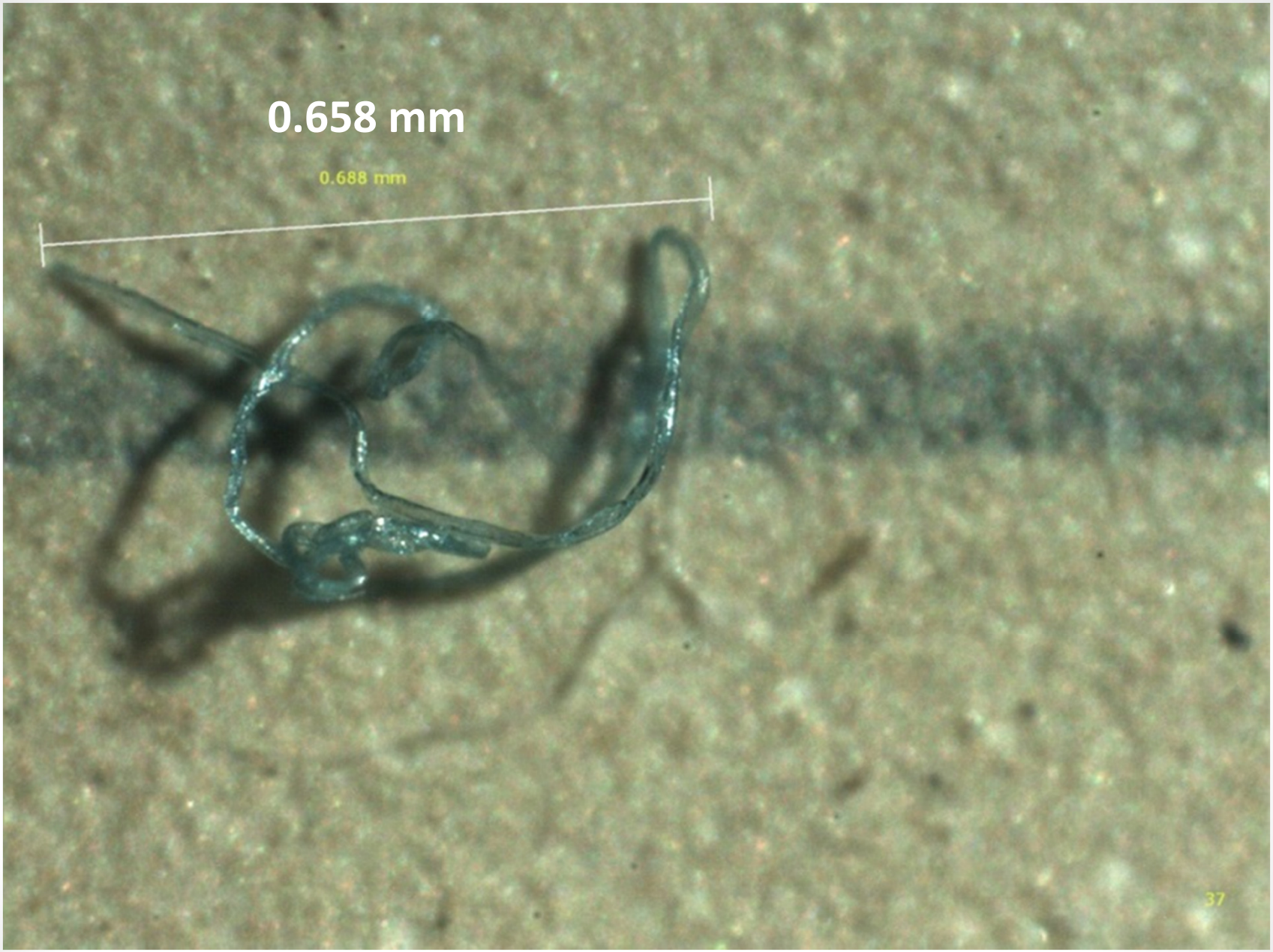
0.764 mm
1E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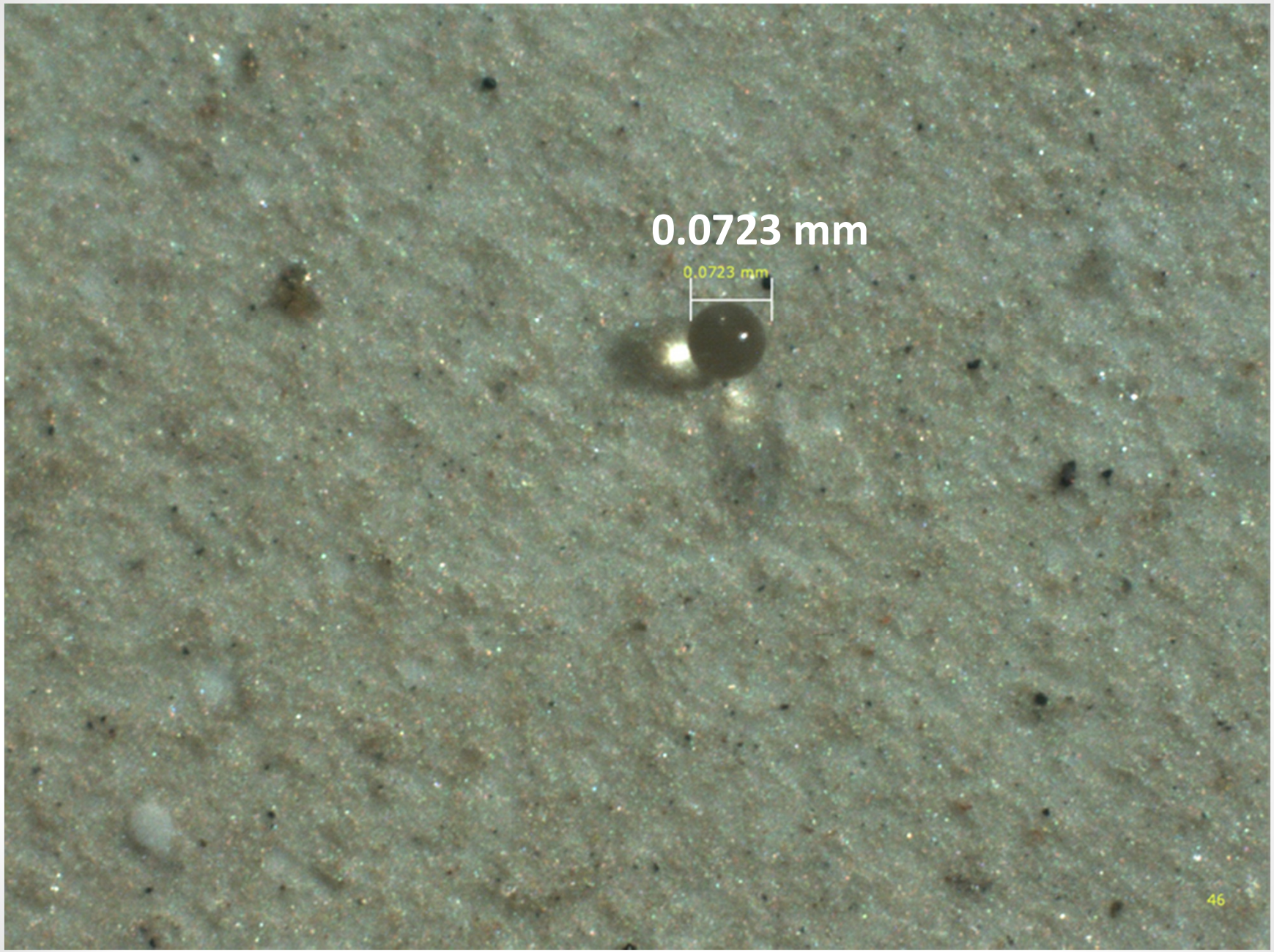
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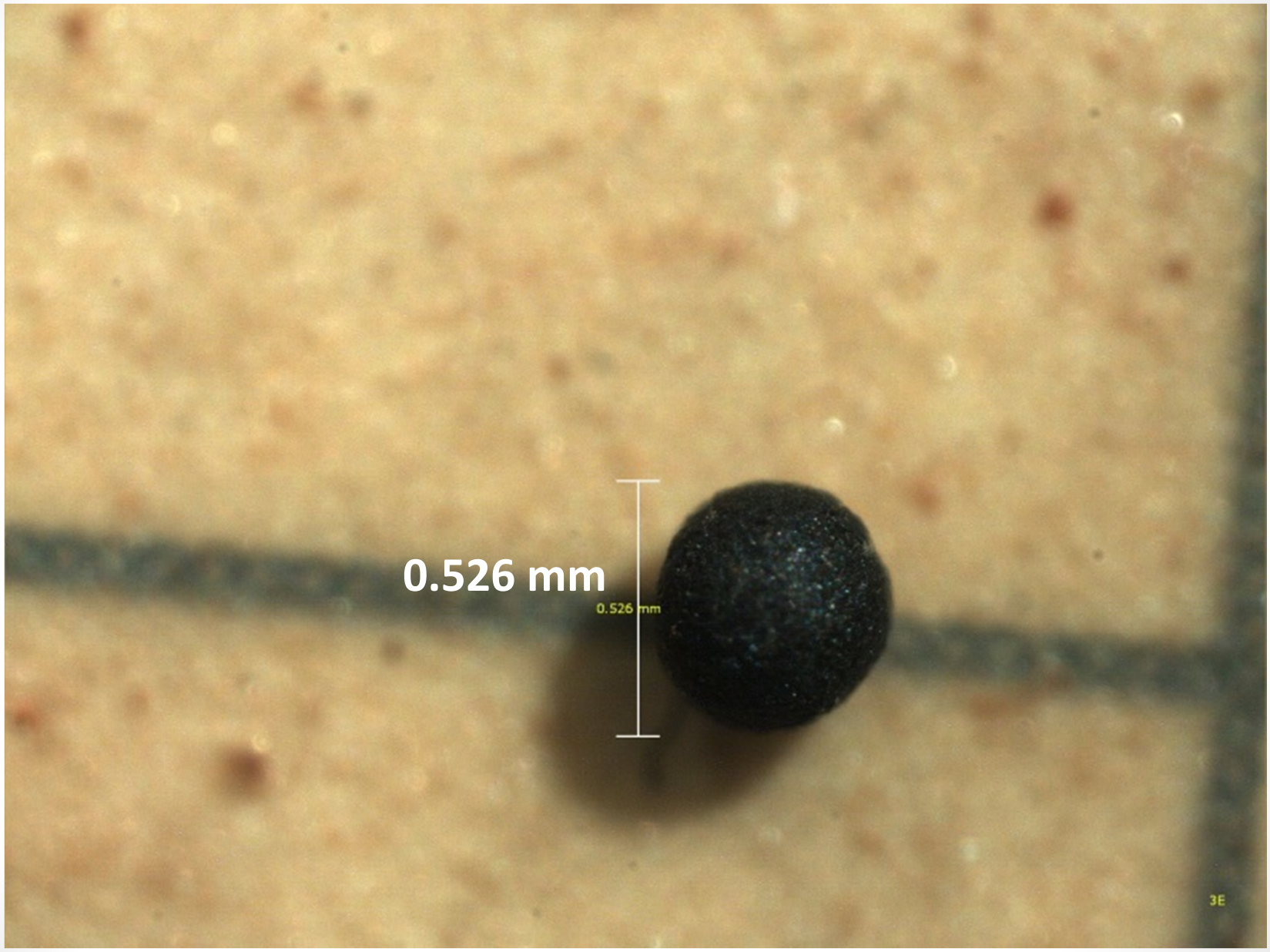
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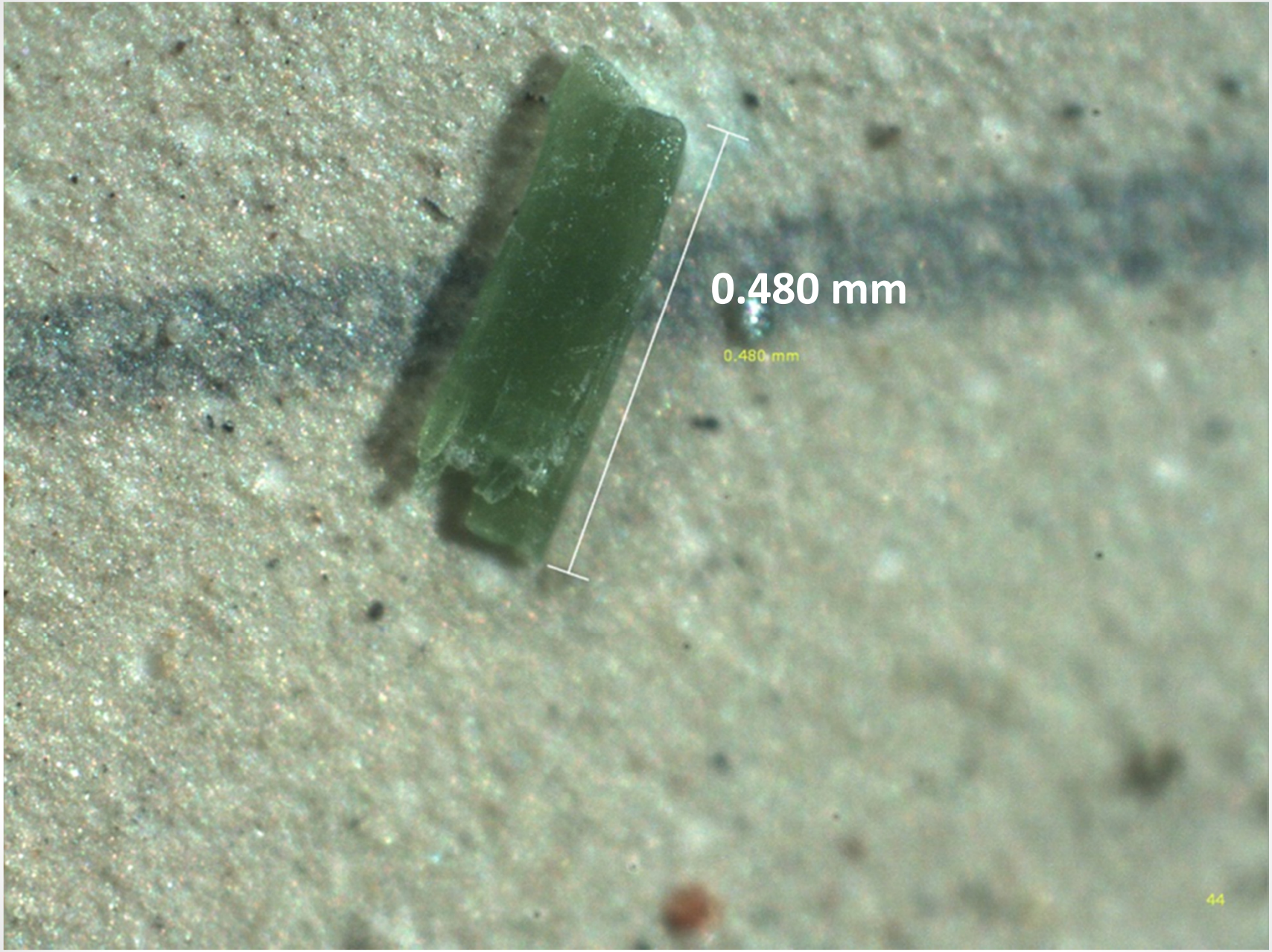
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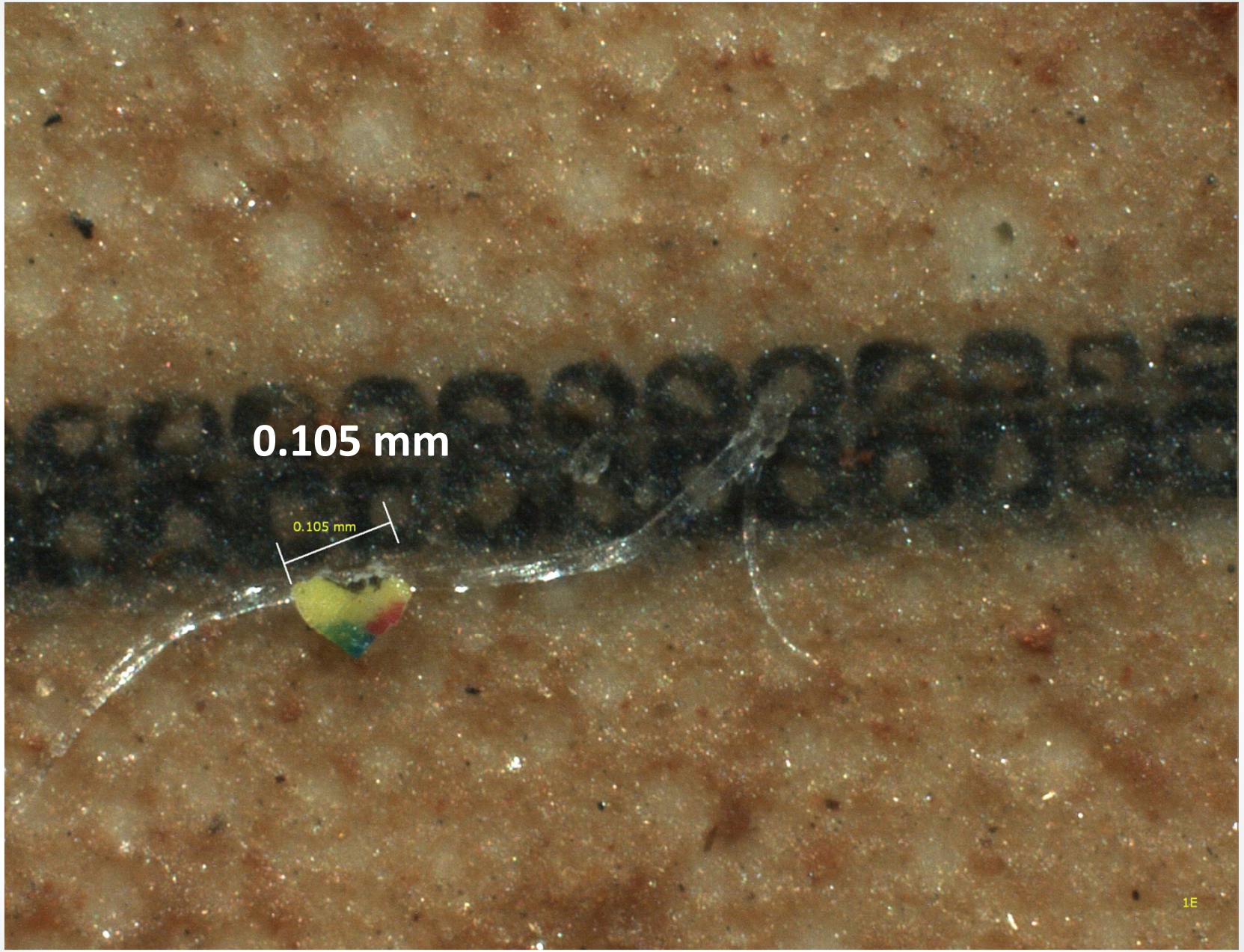
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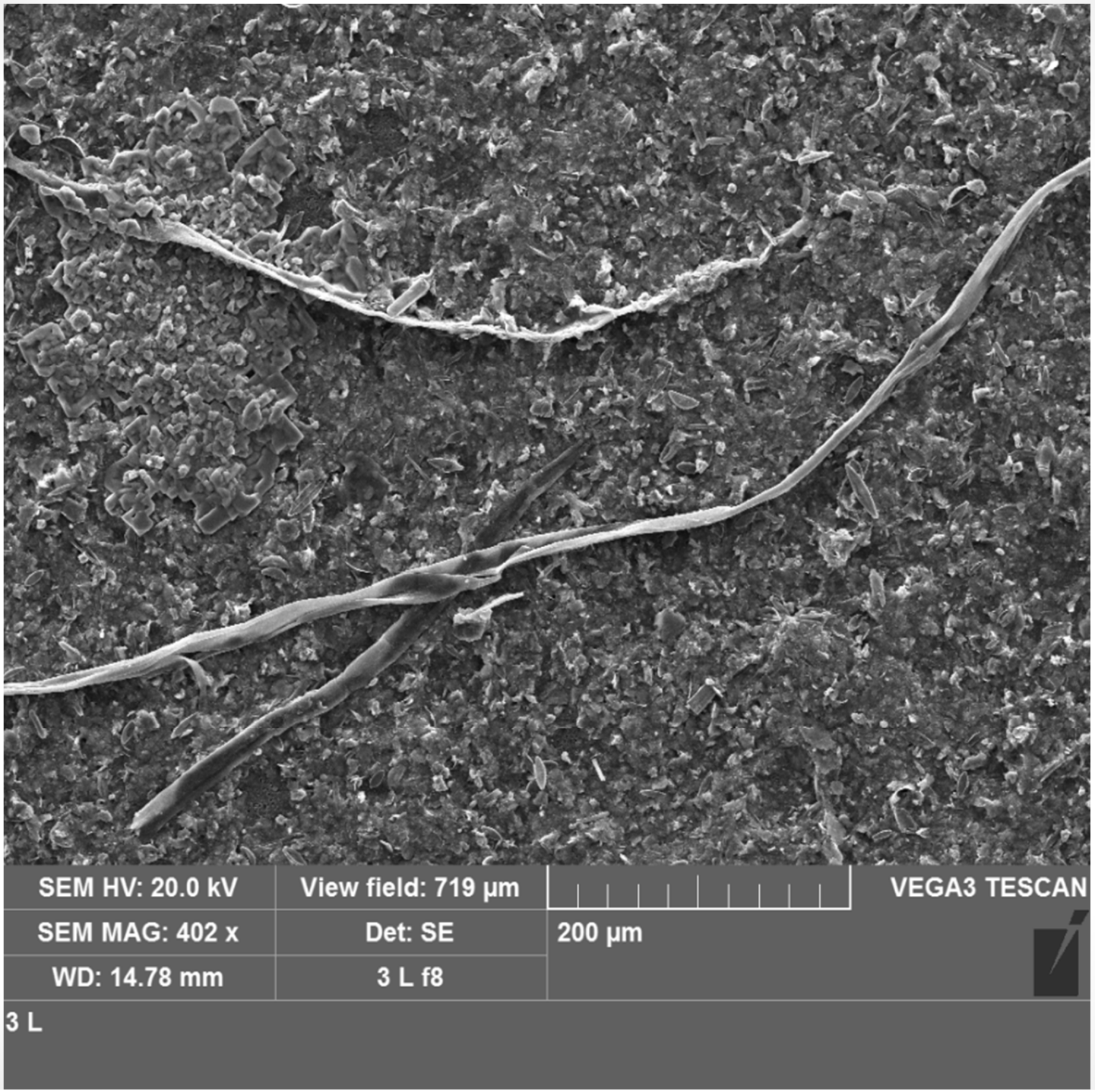
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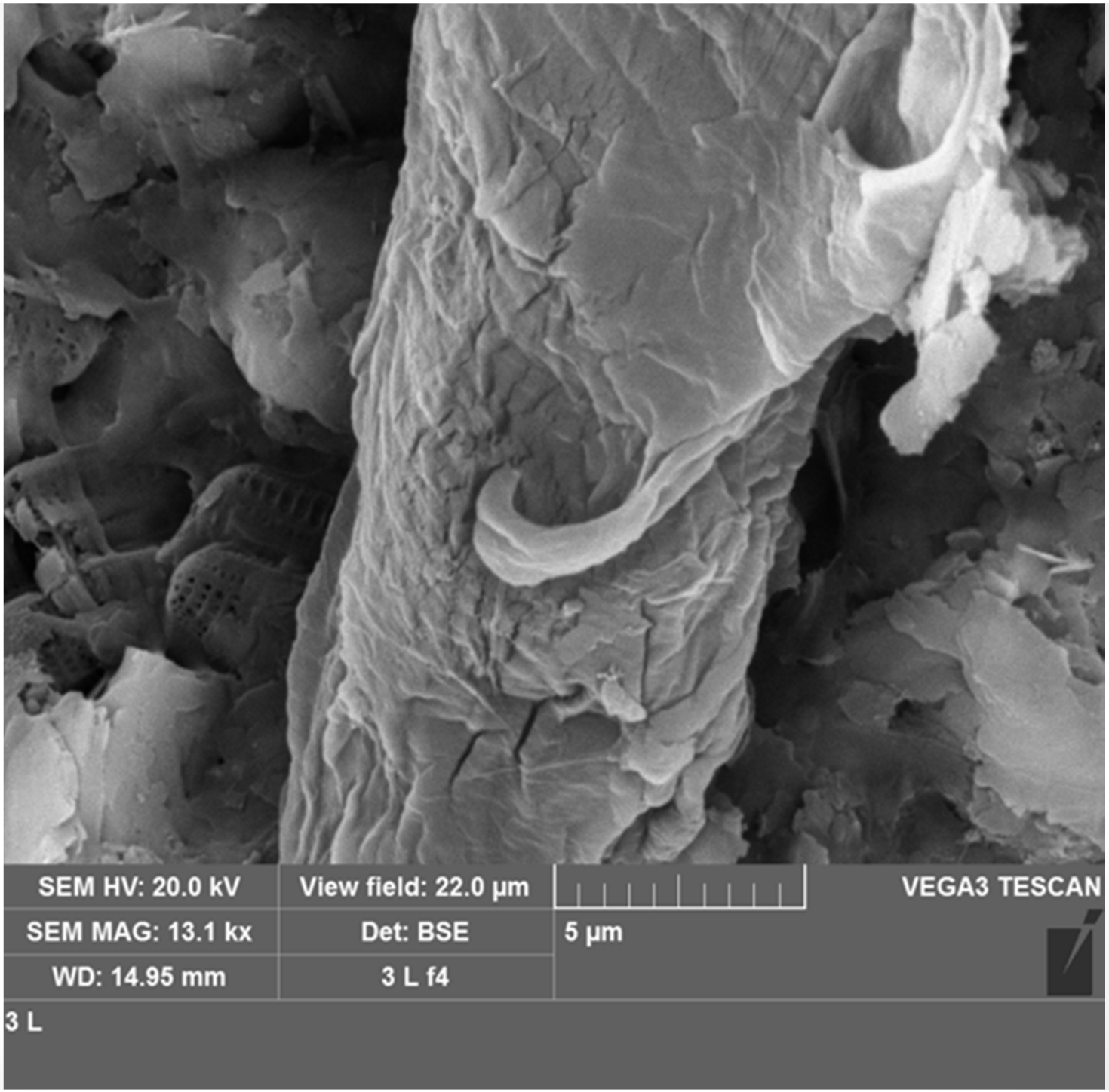
VEGA3 TESCAN
SEM MAG: 402 x
Det: SE
200 µm
WD: 14.78 mm
3 L f8
3 L


SEM HV: 20.0 kV
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5 µm
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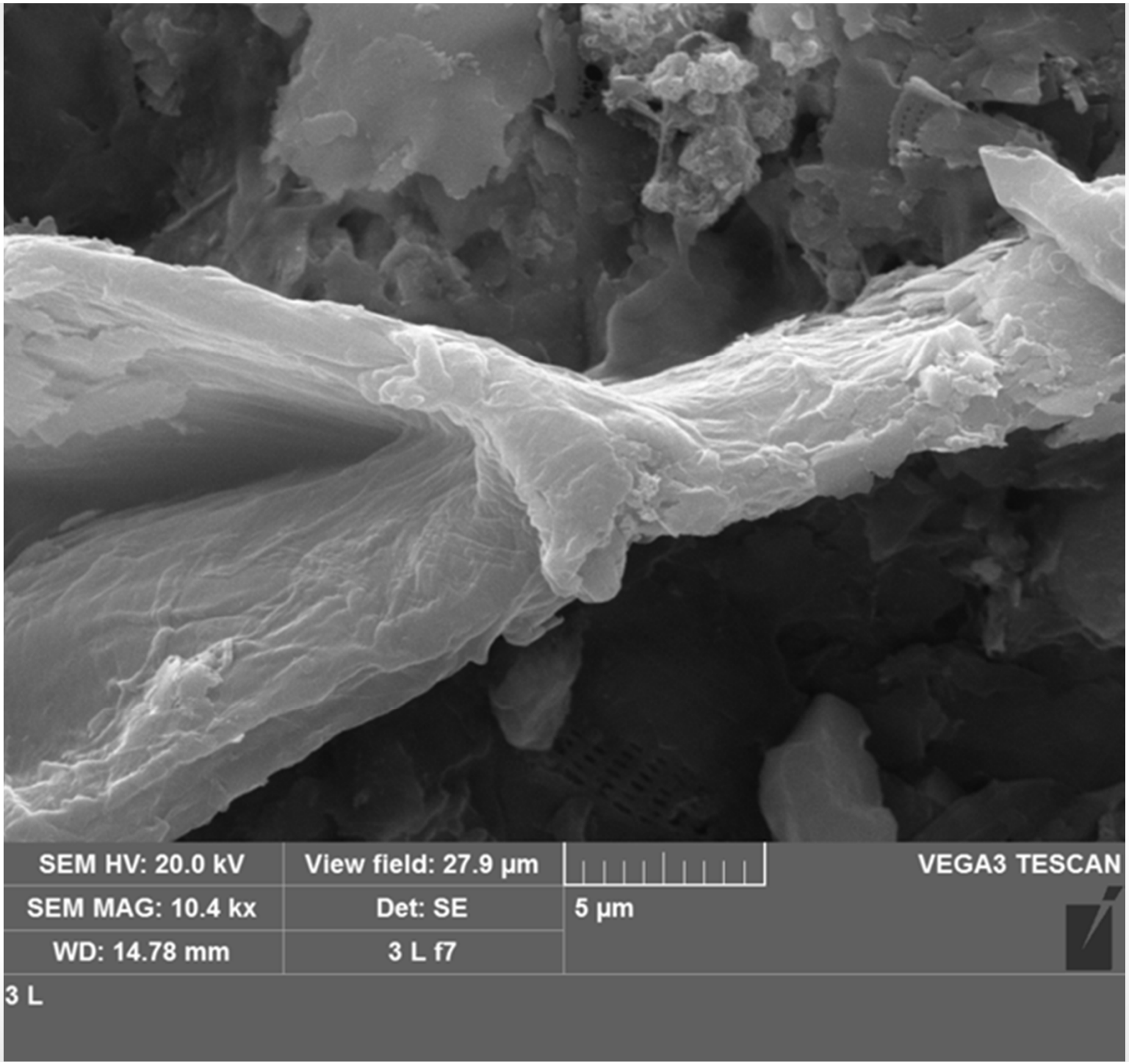
3 L


SEM HV: 20.0 kV
View field: 27.9 µm
VEGA3 TESCAN
SEM MAG: 10.4 kx
Det: SE
5 µm
WD: 14.78 mm
3 L f7
3 L

CONCLUSION

- Number of microplastics found and population density are linked
- Decrease in size in both the sediment and microplastics from the torrents to the sea
- Further studies will be conduct in a different season to discover if exist a seasonality
- Next step is to find out the polymer these microplastic are made of

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