Sample ID and provenance

Sample ID: SP61_PER

Lithology: Chert

Collection: LusoLit

Outcrop: Peral

Unit/facies: Possibly Upper Jurassic

Thinsection: Yes

Macroscopic description

- COLOR

Color distribution is Mix diffuse. Main colors are gray (10YR 5/1 and 6/1) and light gray (10YR 7/1).

- FABRIC

Dull and opaque. Rough to semi-rough feel and the grain is fine. The structure is Uneven with a gradual variation. Patterns are Spots. These are mostly Splotched and Speckling, in 50-99% of the sample. Within the nodules there are areas with differing degrees of silicification, creating the Uneven structure.

- INCLUSIONS AND FOSSIL CONTENT

Very frequent and visible fossil content that is unidentifiable and seems poorly preserved. There are opaque grains and concentrations of darker grains. There may be a flaw filled by quartz.

Possibly identifiable fossils were: 1) a radiolarian with preserved structure; 2) possible sponge spicules (longitudinal), completely replaced by quartz or chalcedony.

- CORTEX

Cortex type is Outcrop. It is thin and ranges from a sharp to gradual transition, the latter with a lighter color than the inside of the nodule. The nodules are spherical, enclosed in the parent rock in sharp contacts. When tested with dilute hydrochloric acid (HCL 10%), there was no reaction, hinting at the absence of carbonate minerals in the parent rock.

- QUALITY

The fracture type is Conchoidal and Uneven and the surface is Homogeneous. The knapping quality is Good to Medium.

- OBSERVATION

Patination may occur naturally, creating a yellow/orange patina in the chert.

Outcrop description

- OUTCROP CHARACTERISTICS

Type of outcrop: Secondary

Visibility: Good

Accessibility: Easy

State of site: Bad

- CHERT NODULES/BEDS DESCRIPTION

Type of chert nodule: Nodule

Sample variability: Homogeneous

Frequency: Sporadic

Nodule description: Irregular, from 2 to 5cm.

- SHORT DESCRIPTION

The chert nodules can be found in small boulders, displaced from their original locations, and pilled in an old rural wall. The nodules within the boulders are homogenous and sporadic, with irregular shapes and with widths from 2 to 5cm.

Petrography analysis form

❖ TEXTURAL COMPOSITION

Texture: Packstone, Wackestone

Microstructure: Massive

❖ COMPOSITION

ORTHOCHEM	Type	%	Description
MiC quartz (gr)	SE	40	-
Chalcedony (fb)	SE	1	Replacing fossils in the chert.
MG quartz (gr)	SE	1	Replacing fossils.
?	-	54	-
Muscovite (?)	AC	1	Within fractures and fossil ghosts.
Dolomite	SE	1	Within fractures and fossil ghosts.

ALLOCHEM	Freq	Description
Oxide grains	Uncommon	-
Oxide patina	Uncommon	-
Opaques	Very frequent	These are scattered through all the sample but their classification is unknown.

BIOCLASTS	Freq	Description
Unidentifiable fossils (ghosts)	Common	-
Sponge spicules	Common	Mostly seemingly Monaxon megascleres, although there might a Tetraxon and Triaxone spicule.
Algae (?)	Rare	This fossils was identified based on a fragment found on the sample.
Echinoderm	Uncommon	Cross section.
Gastropod (?)	Rare	Preserved in the parent rock.

- OTHER TEXTURAL CHARACTERISTICS

Total porosity (%): 1

Porosity type: Vuggy

Other sedimentary structures: -

Observations

- There are two textures present in the sample. The wackestone refers to the chert itself, where the fossils are less preserved. The packstone refers to the darker, parent rock where the fossils are much more preserved.

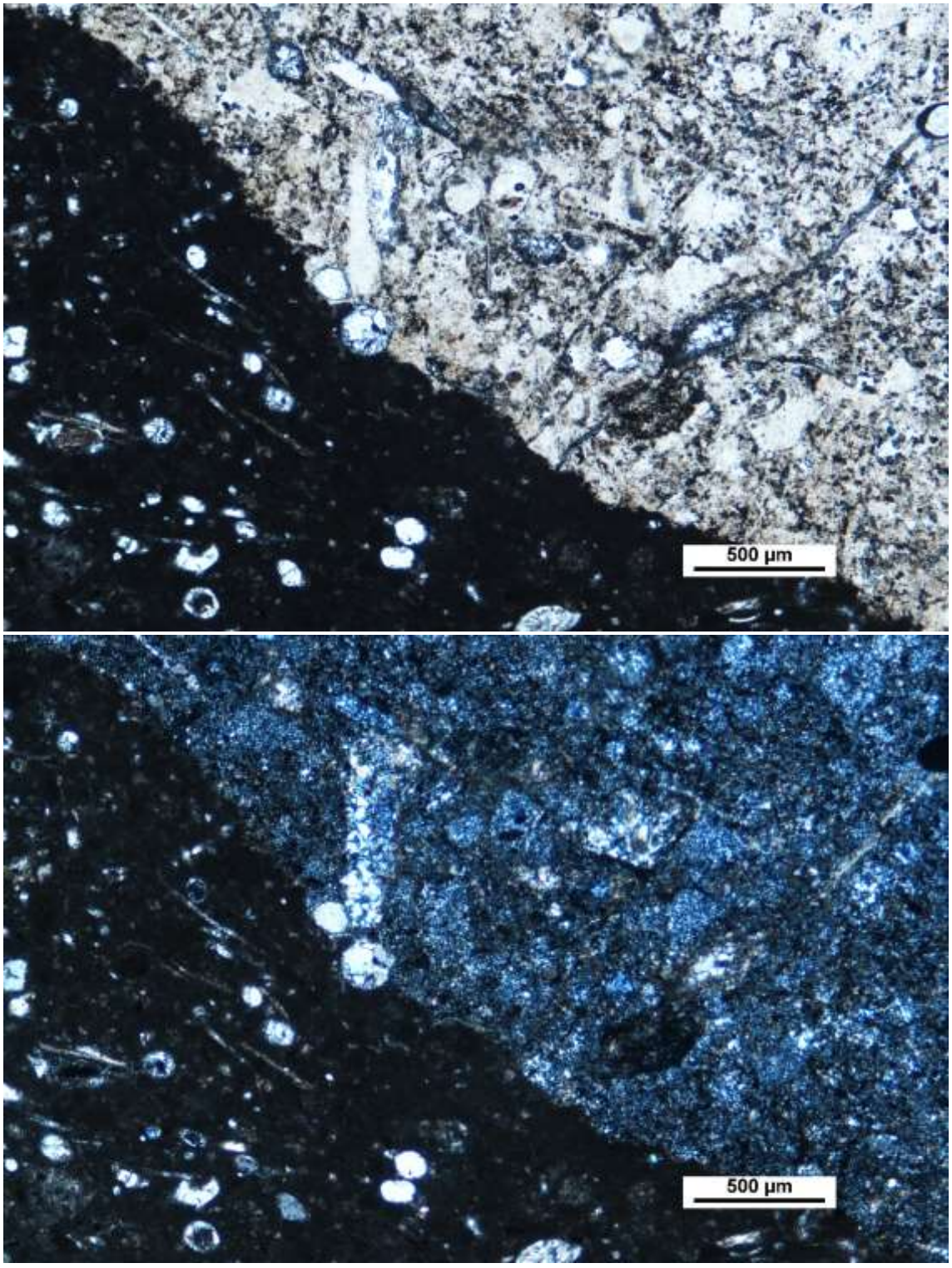
Analysis information

- ANALYST: JB
- DATE: 06.27.2022
- EQUIPMENT: Nikon DS-Ri2

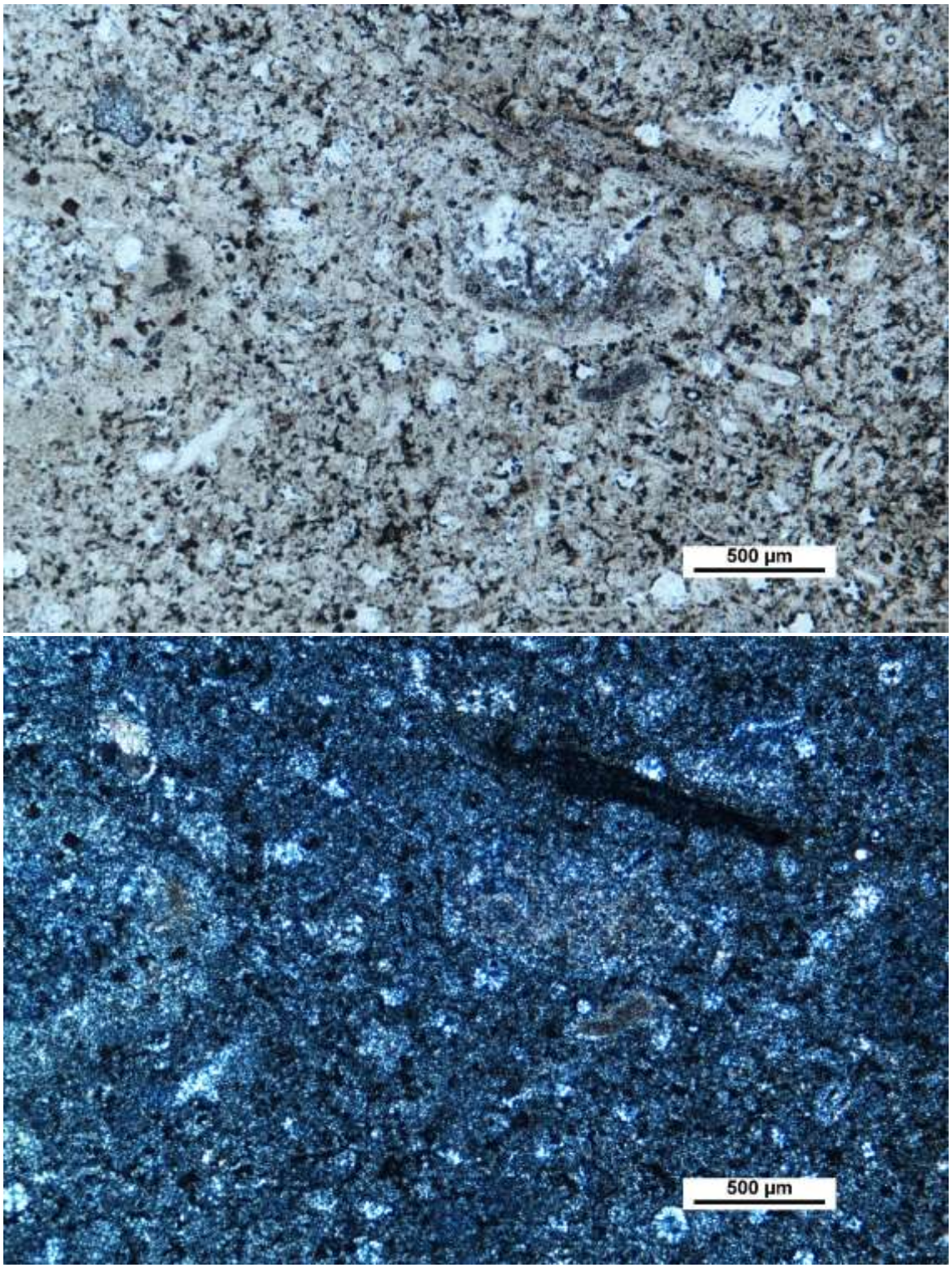
Photos

Photo ID	Aug.	Description
SP61_001	4x	General view of the contact between the parent rock and the chert. Several unidentifiable fossils and calcispheres can be seen.
SP61_002	4x	General view of the chert with opaque minerals and unidentifiable fossil ghosts.
SP61_003	4x	Fracture within the chert possibly filled with muscovite or shale minerals. The presence of fossils is less noticeable.
SP61_004	10x	Detail of the chert with fractures or fossils filled with dolomite grains (?).
SP61_005	4x	Detail of a possible fragment of a algae (in the parent rock).
SP61_006	10x	Detail of a possible Tetraxon megasclere spicule and other spicules (in the parent rock).
SP61_007	4x	General view of several fossils preserved in the parent rock: monaxon spicules, triaxone spicules, echinoids, a gastropod and several unidentifiable fossils.
SP61_008	4x	General view of the packstone texture of the parent rock, filled with muscovite and microcrystalline quartz.
SP61_009	10x	Detail of several unidentifiable fossils (ghosts) in the parent rock. Some of the unidentifiable fossils may be bivalve shells.
SP61_010	10x	Detail of an Echinoid spine (longitudinal section) preserved in the parent rock and replaced with microcrystalline quartz.

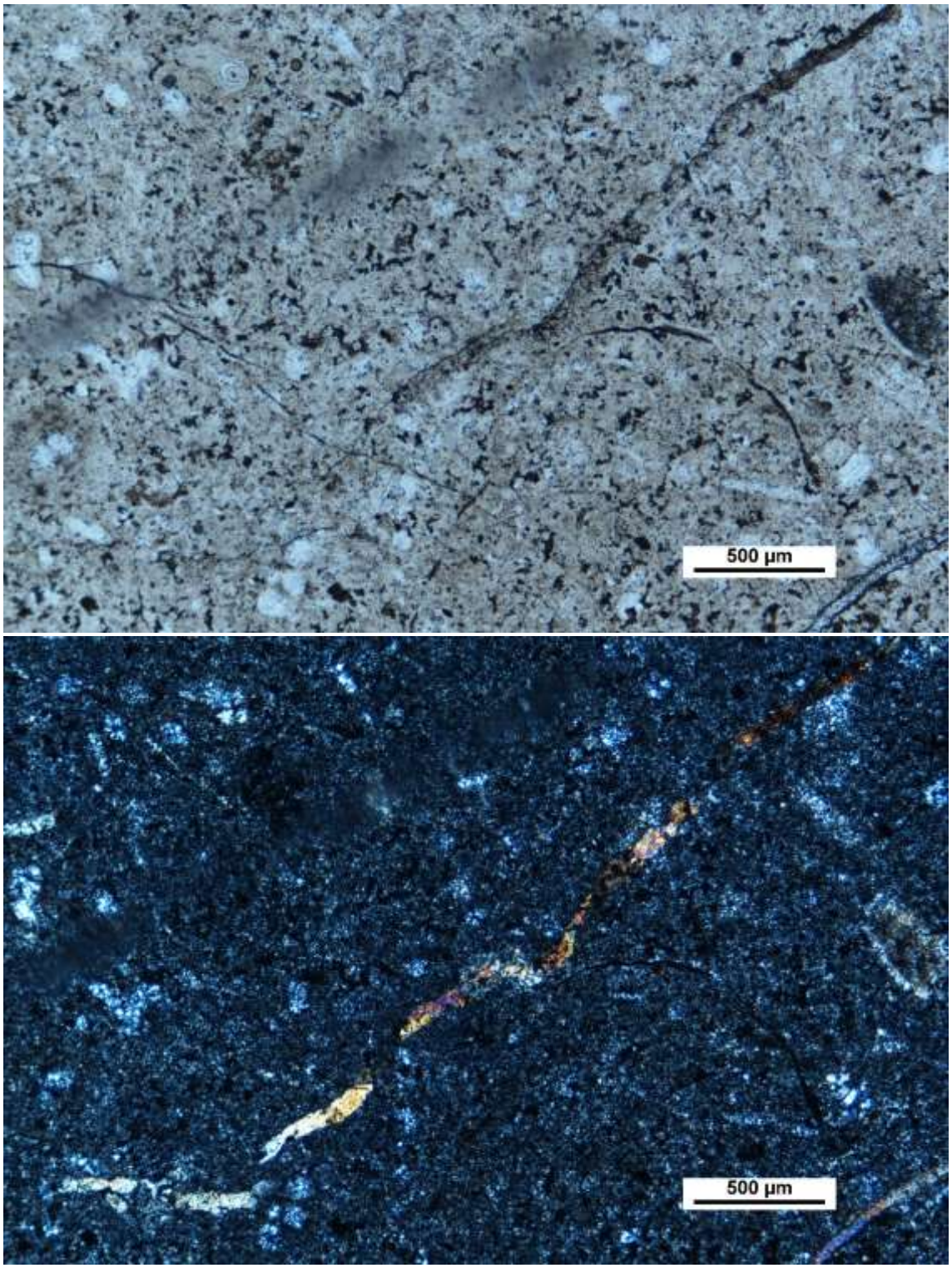
Petrography photos



SP61_Per_001 (PPL and XPL)



SP61_Per_002 (PPL and XPL)



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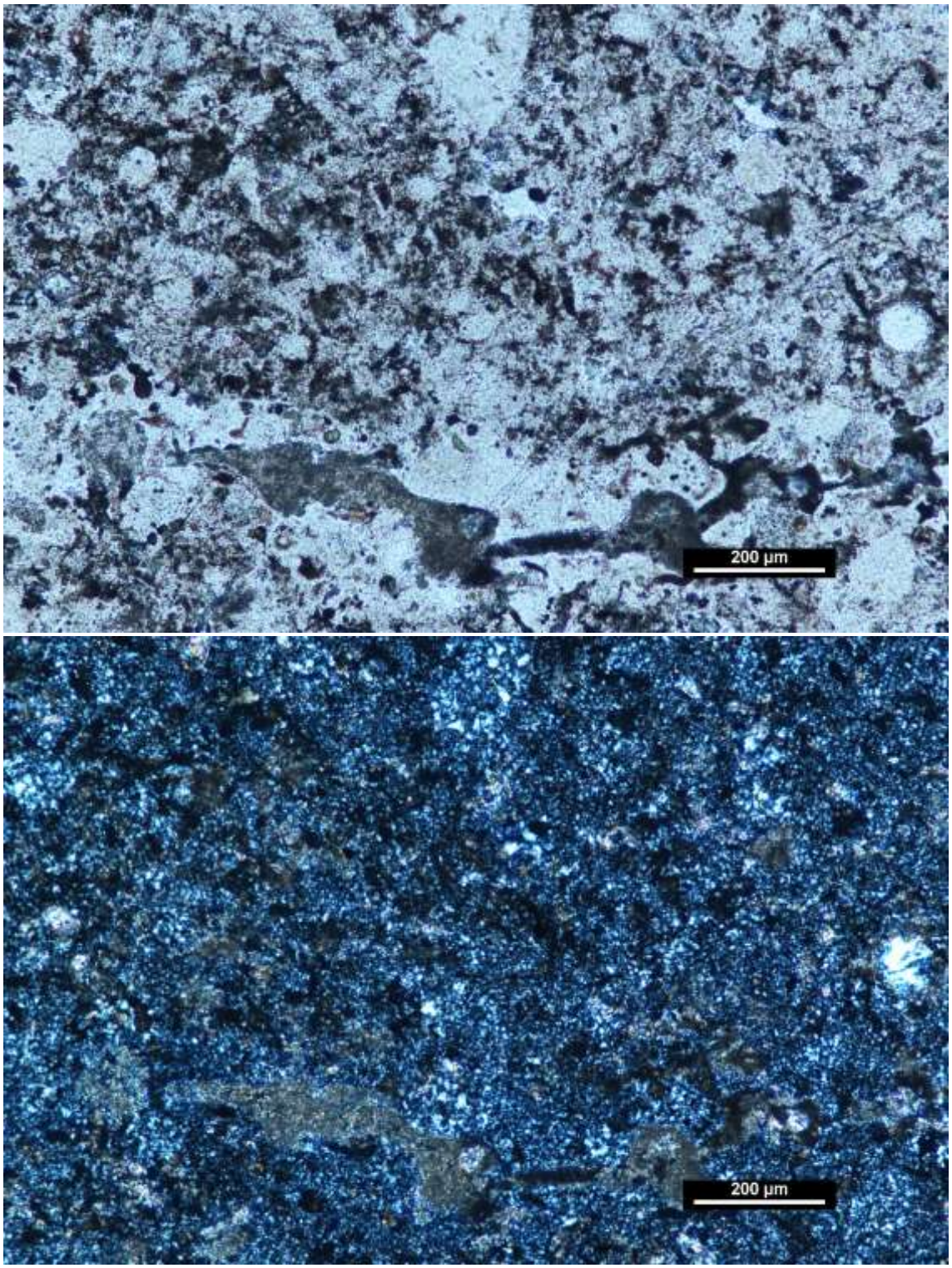

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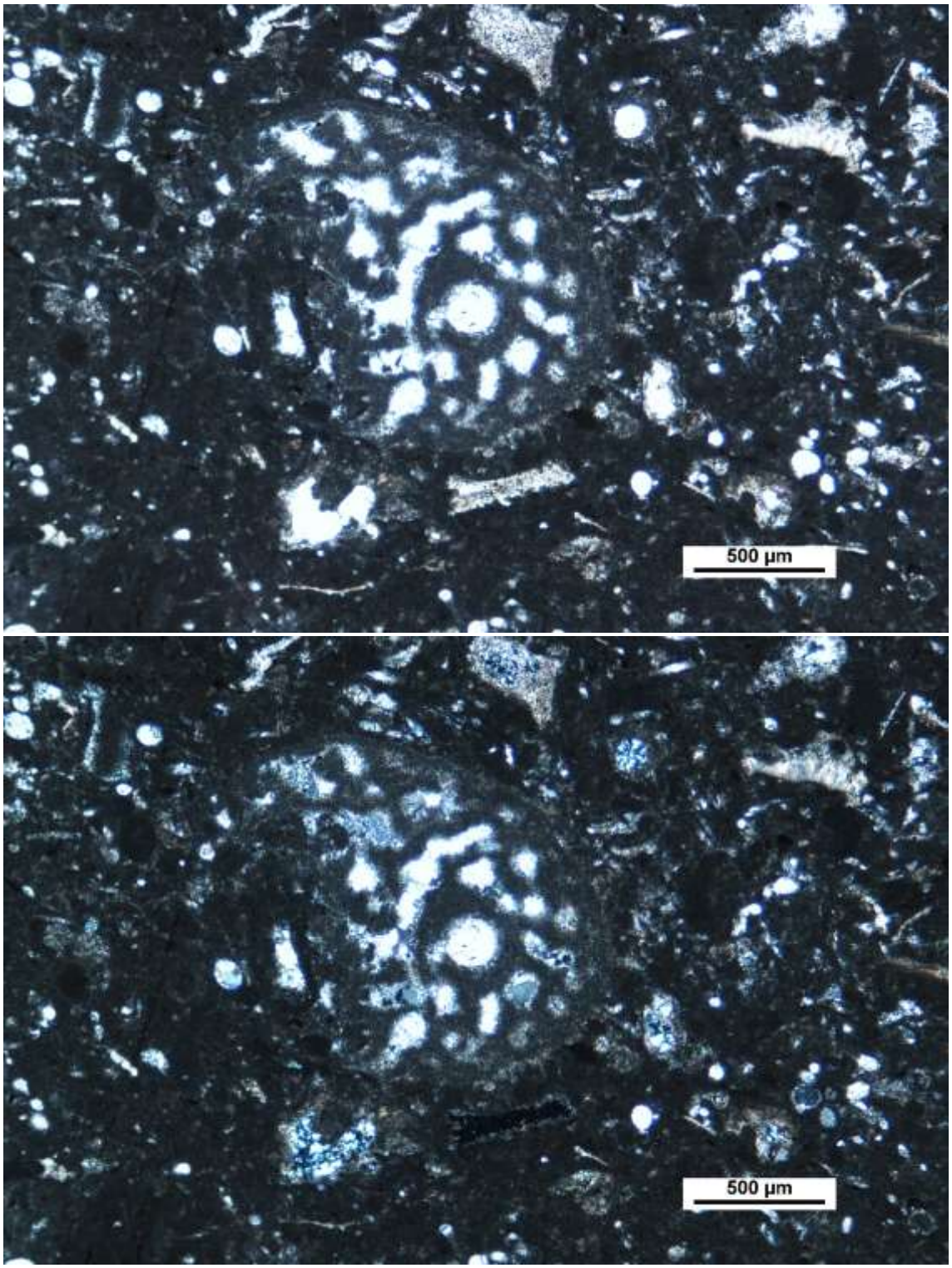

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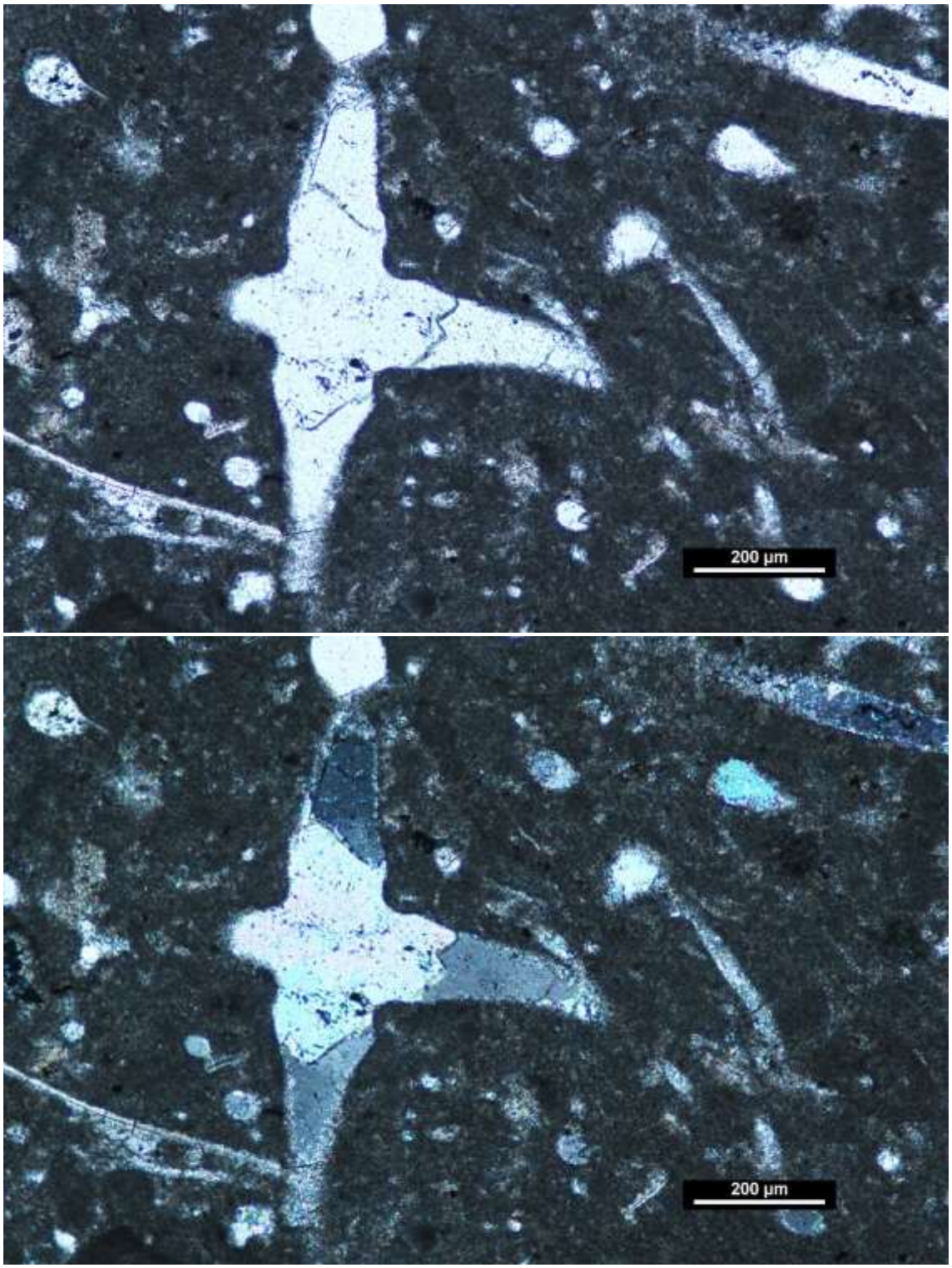

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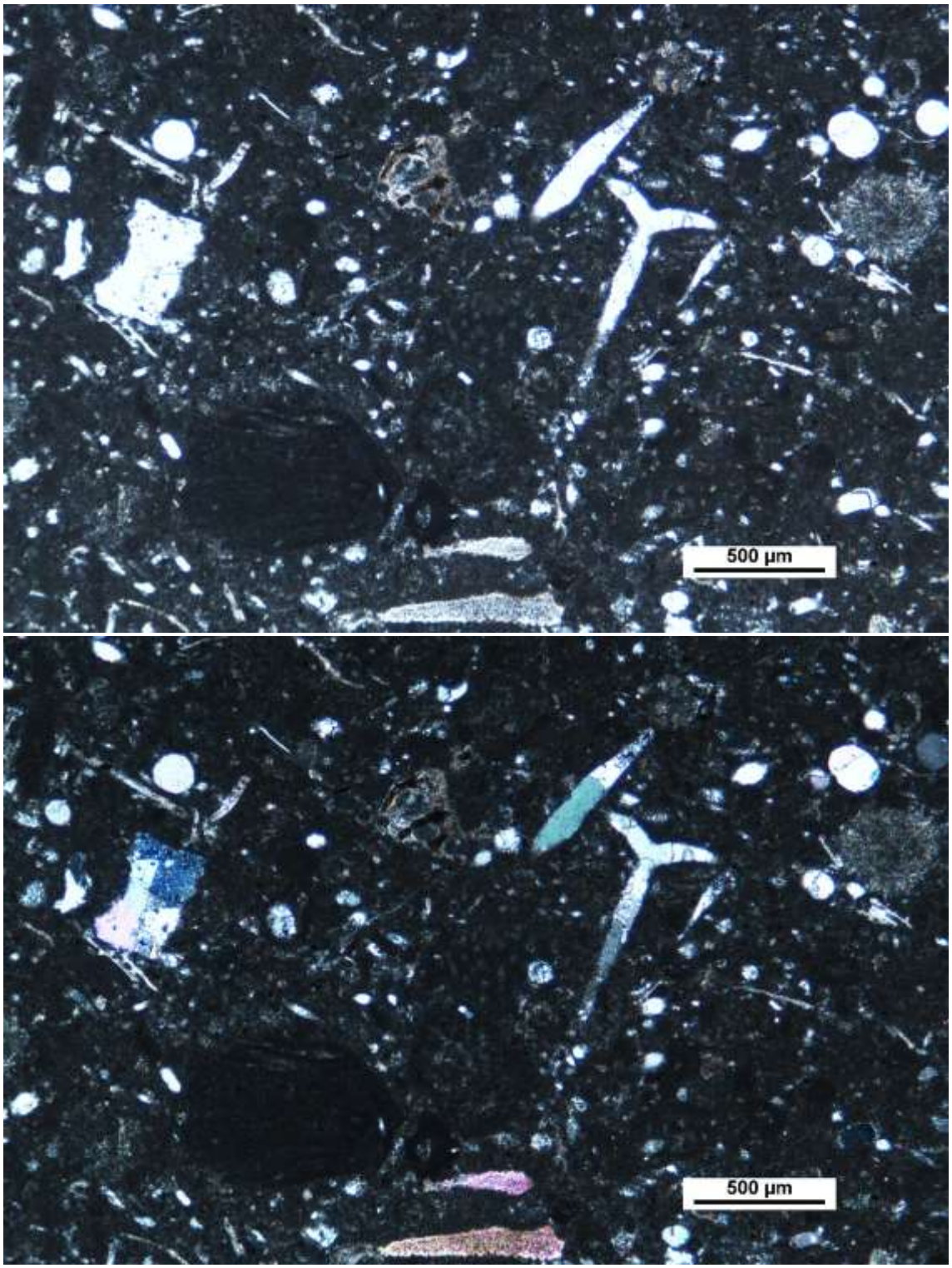

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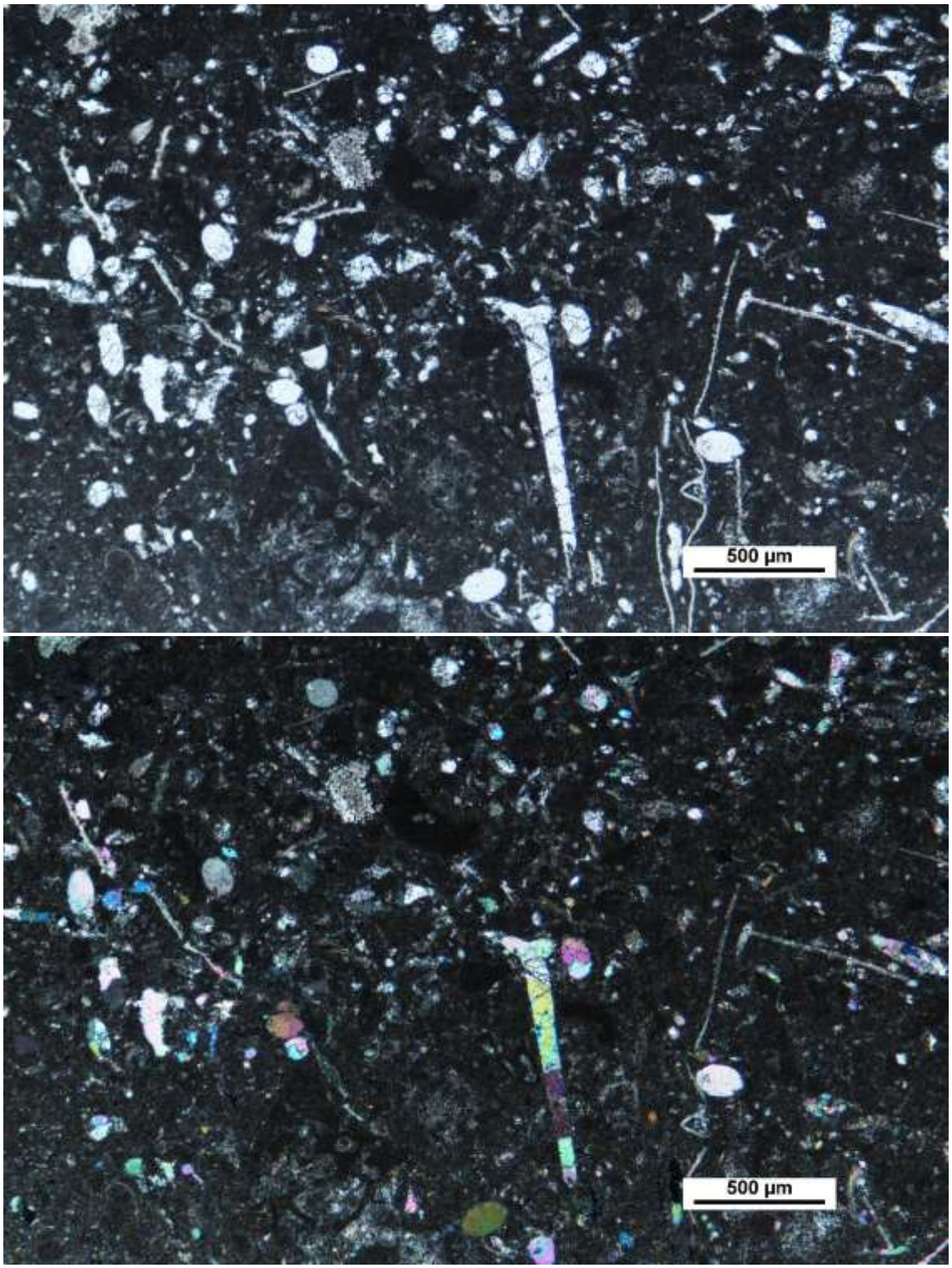

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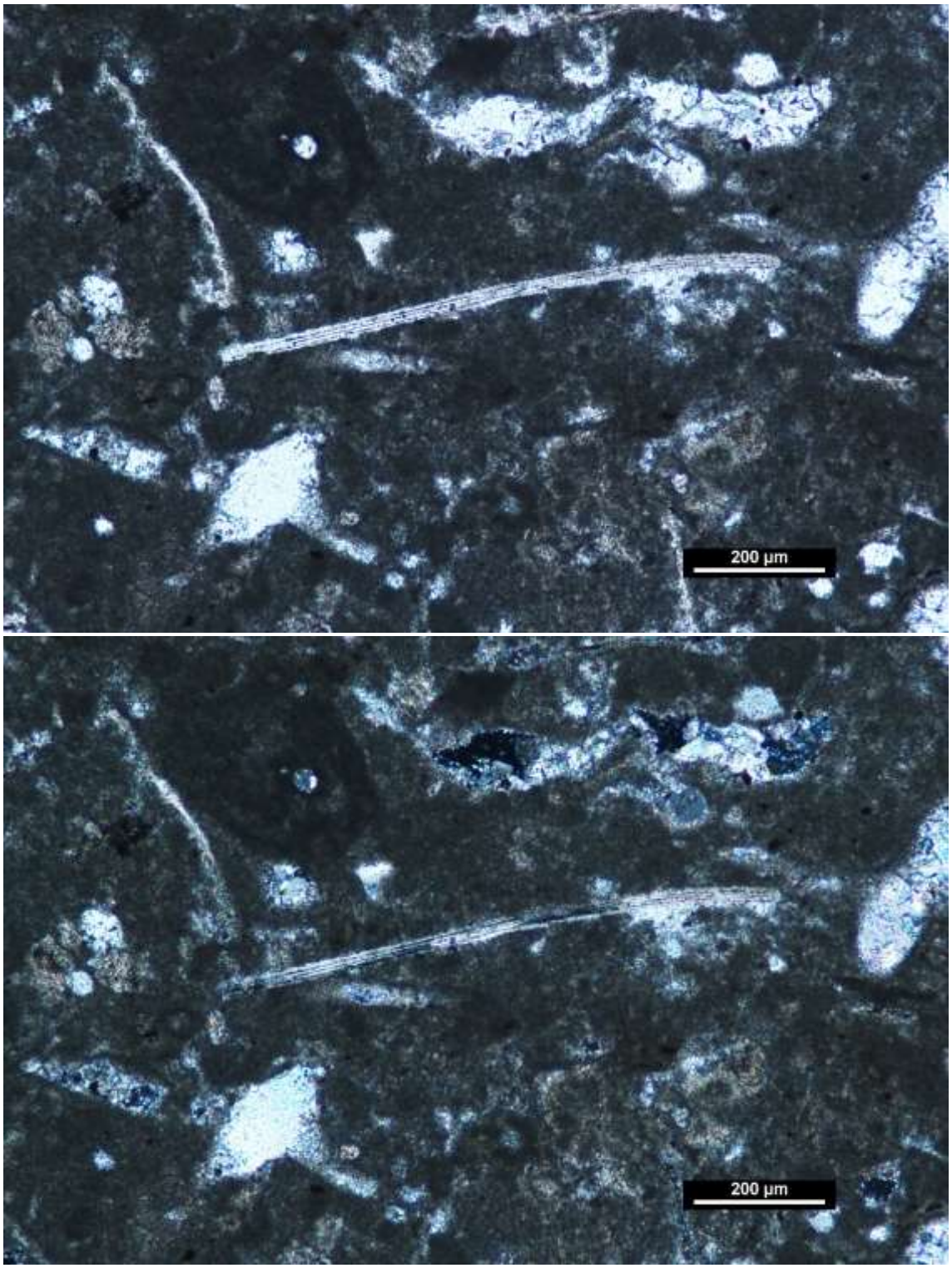
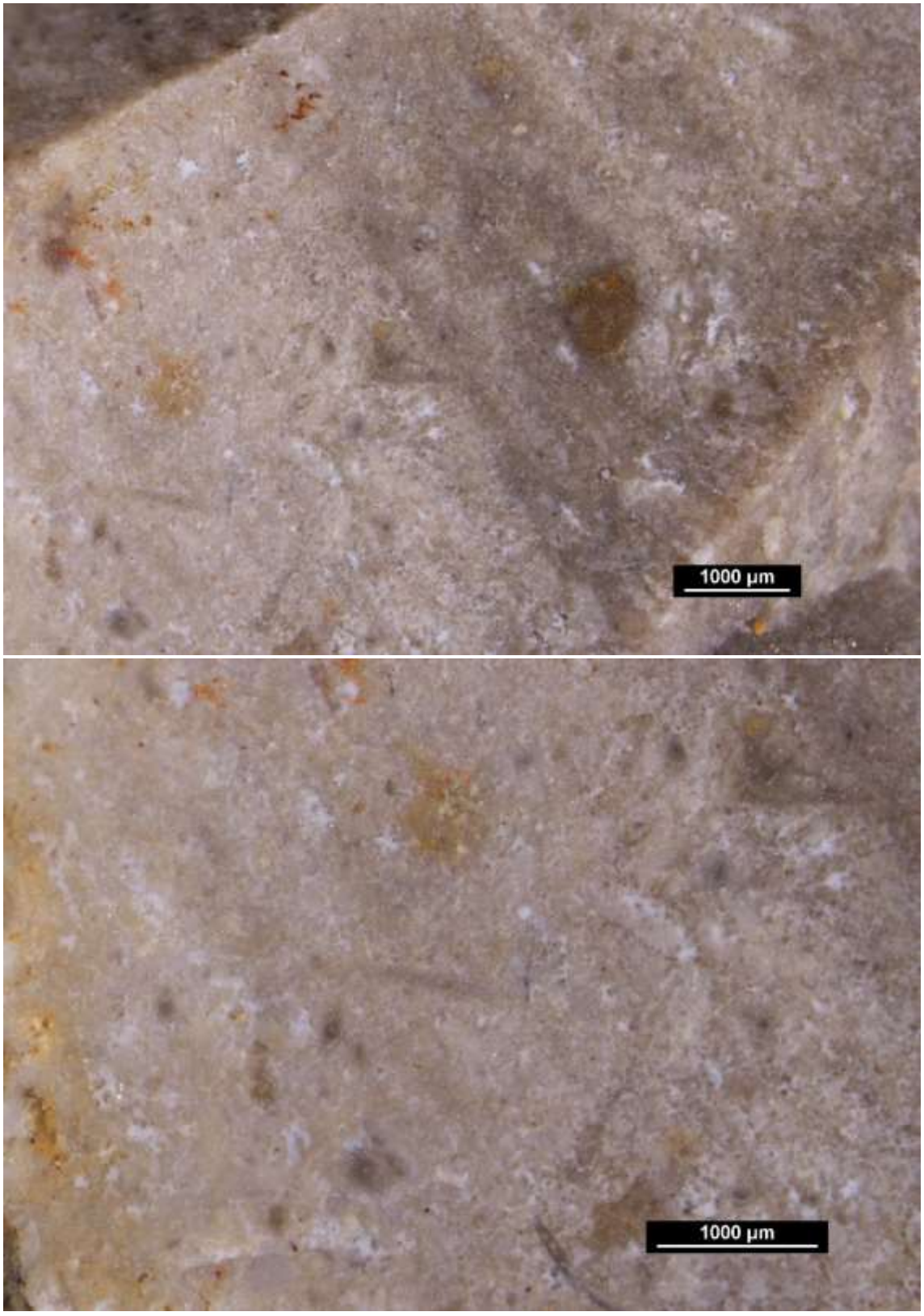
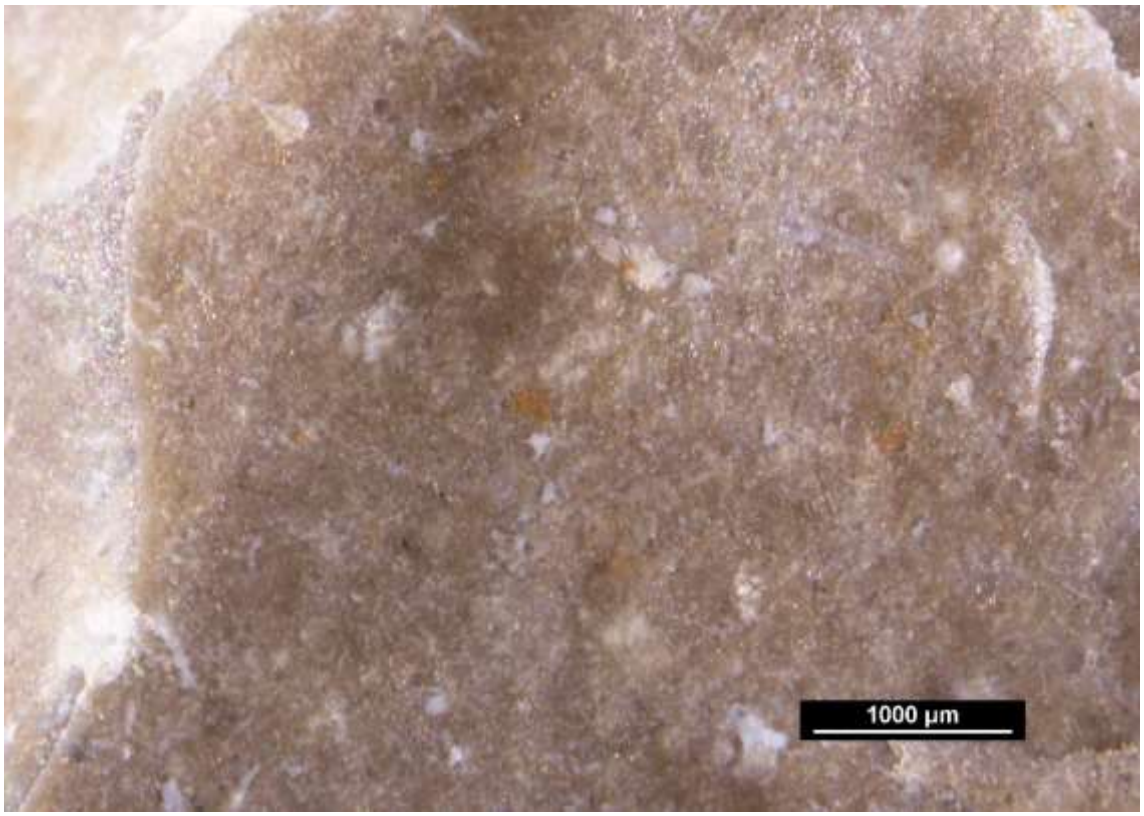


SP61_Per_010 (PPL and XPL)

Macroscopic photos

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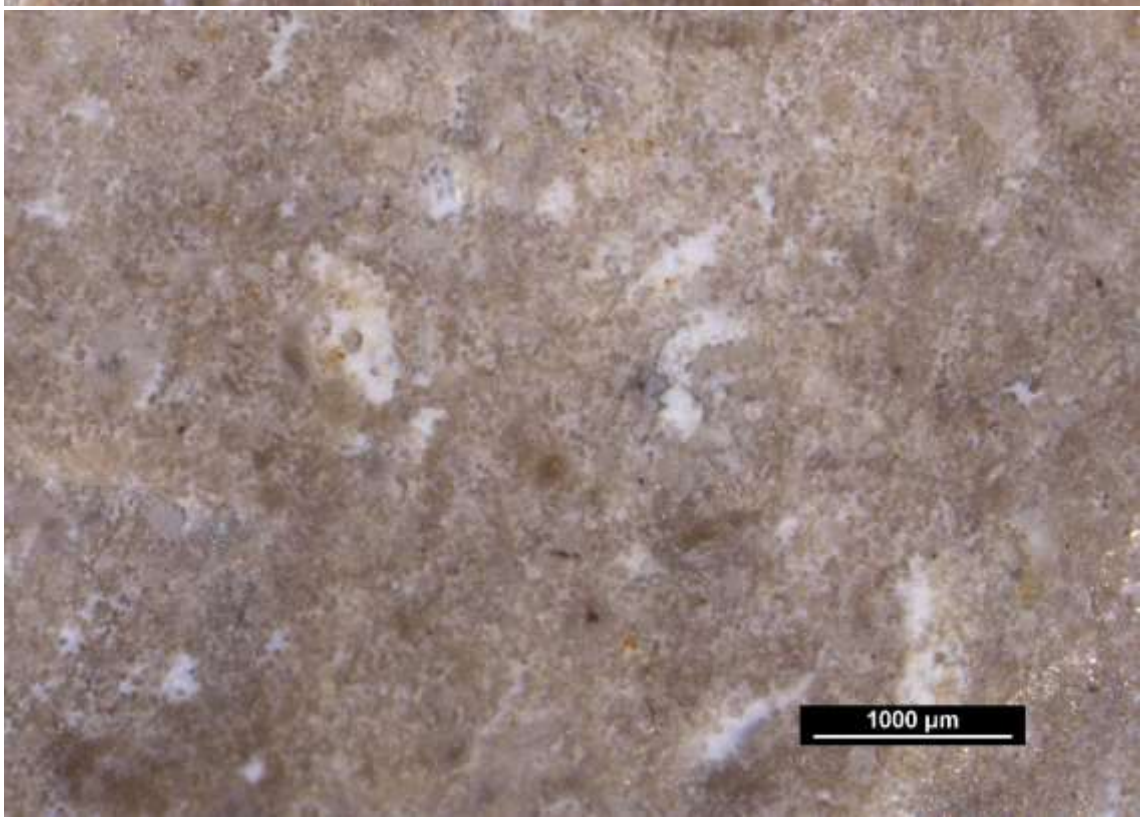
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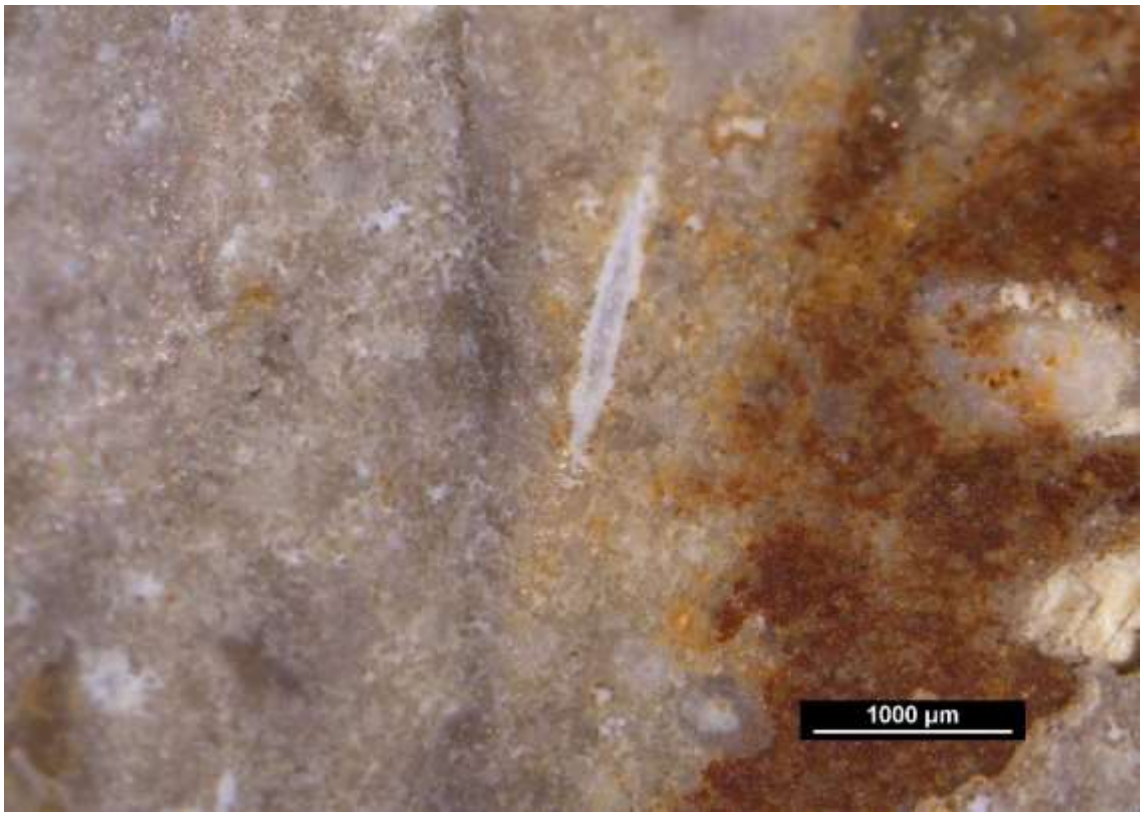
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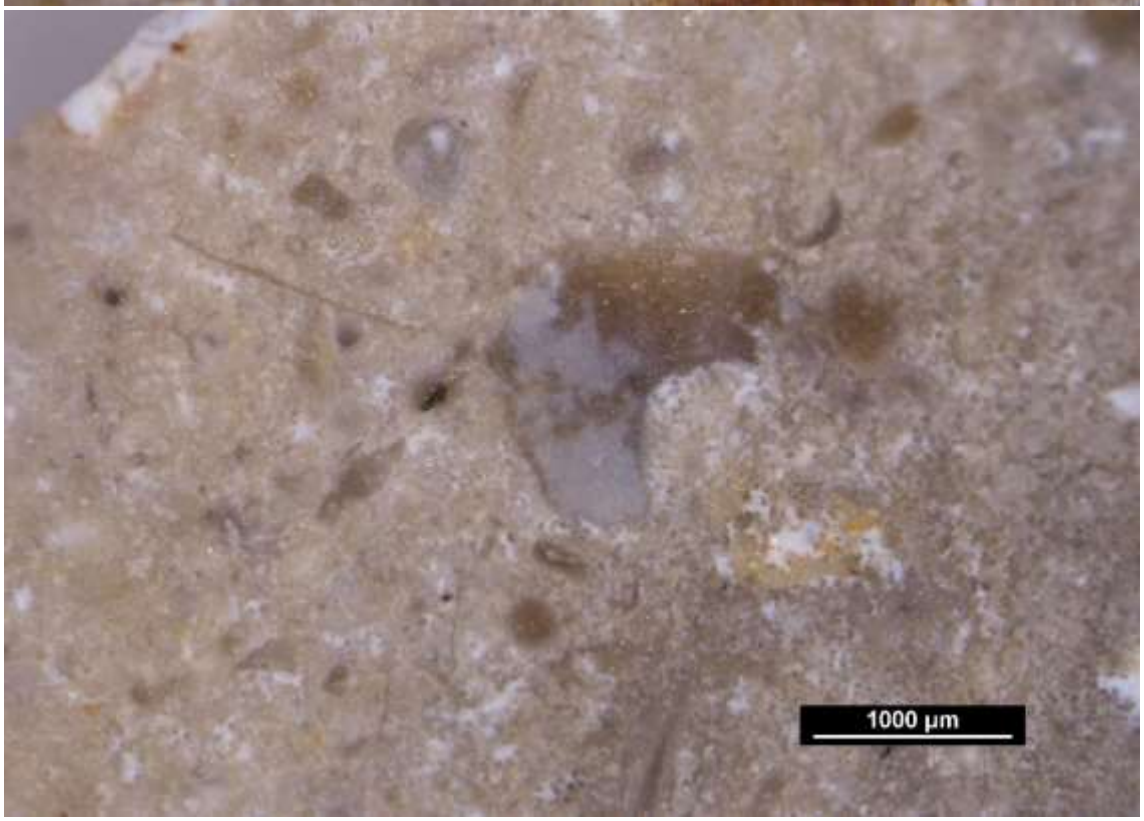
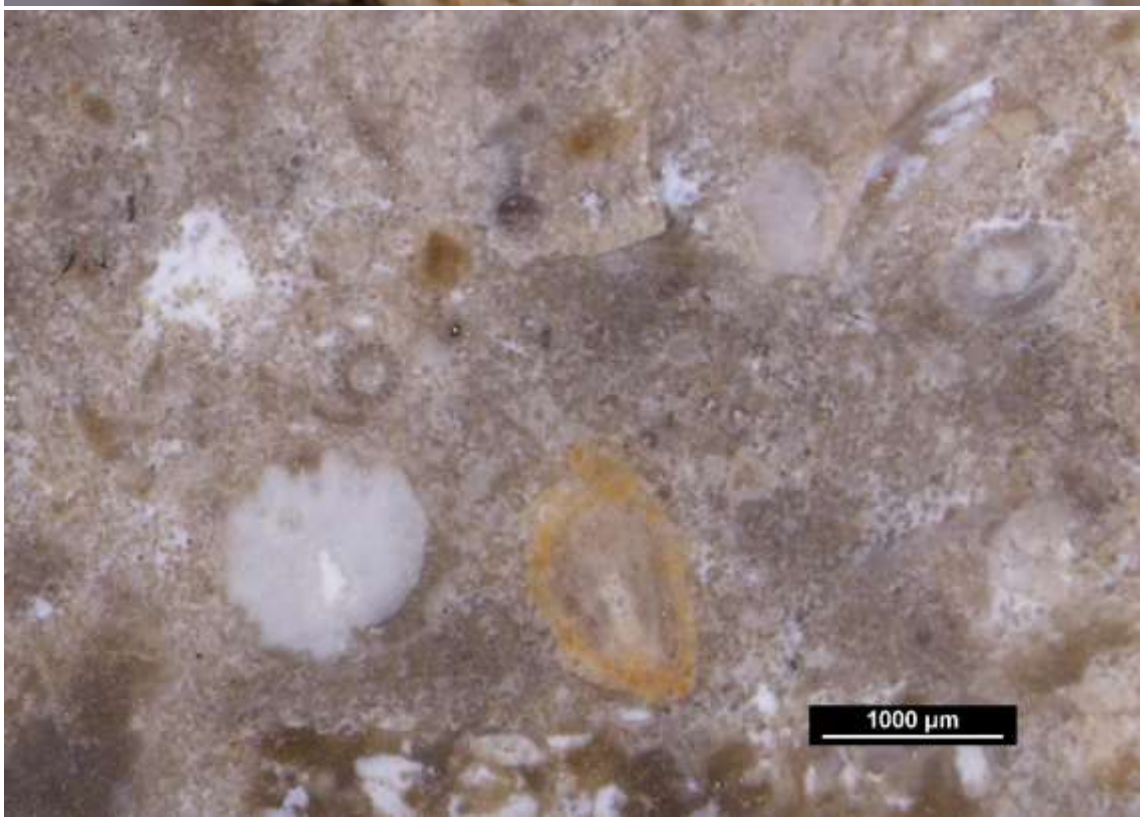

1000 µm


1000 µm

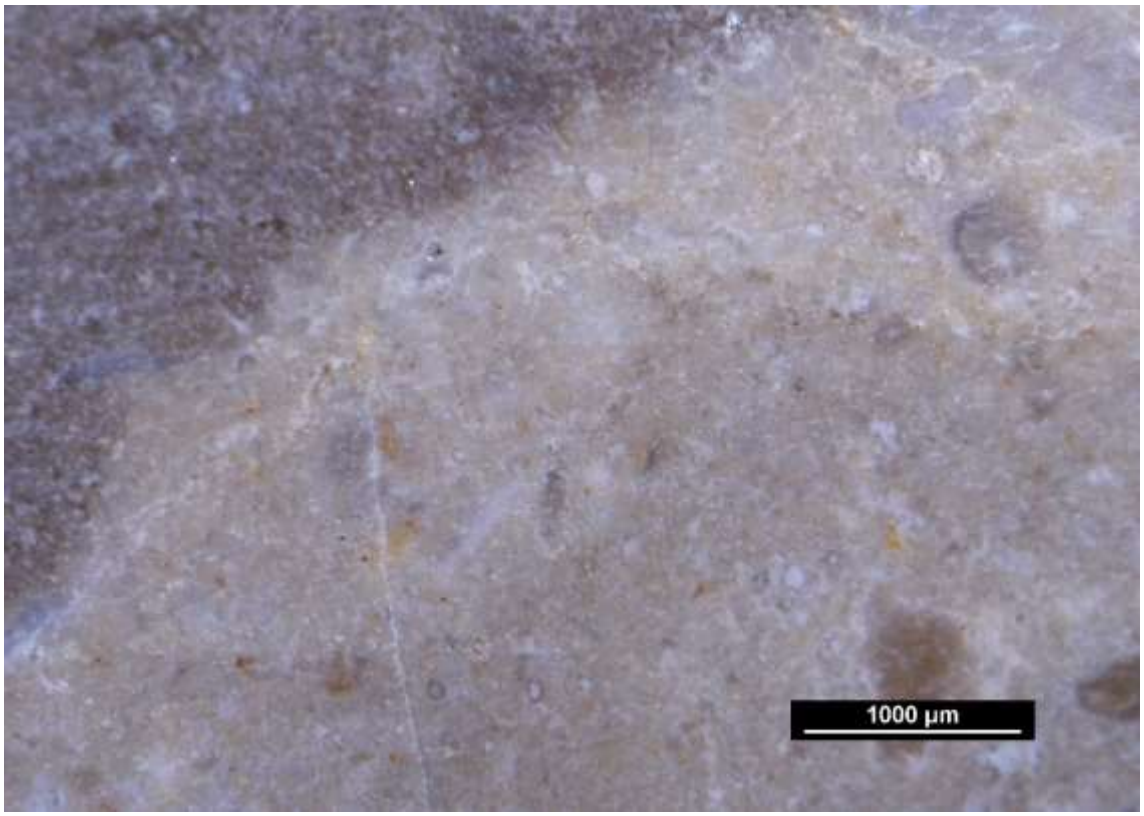

1000 µm


1000 µm


1000 µm


1000 µm


5000 µm


1000 µm