Sample ID and provenance

Sample ID: SP34_PdA_b

Lithology: Chert

Collection: LusoLit

Outcrop: Ponta dos Altos

Unit/facies: Lower Jurassic

Thinsection: Yes

Macroscopic description

- COLOR

The color distribution is Mix diffuse. The colors are Pale red (10R 7/3), Pinkish white (7.5YR 8/2), Very pale brown (10YR 7/4) and Weak red (10R 5/2).

- FABRIC

The luster is Shiny and the translucency is Opaque. The feel is Smooth and the grain is Fine. The distribution is Uneven with a Gradual variation. The patterns are Shaded, Spots (50-99%) and Lines (1-49%). The spots are Broad mottling and Speckling with an Uneven distribution. The lines are Horizontal Laminated.

- INCLUSIONS AND FOSSIL CONTENT

-

- CORTEX

No cortex.

- QUALITY

The fracture is Conchoidal and the surface is Homogeneous. The knapping quality is Good.

- OBSERVATION

-

Outcrop description

- OUTCROP CHARACTERISTICS

Type of outcrop: Primary

Visibility: Good

Accessibility: Easy

State of site: Bad

- CHERT NODULES/BEDS DESCRIPTION

Type of chert nodule: Nodule

Sample variability: Variable

Frequency: Abundant

Nodule description: Oval, between 4 to 8cm wide. The nodules have cortex and somewhat easy to remove from the parent rock. Smaller nodules broken from the parent rock are also spread on the floor.

- SHORT DESCRIPTION

The chert can be found embedded in the parent rock or in broken pieces on the floor. The small boulders are found along a sand path at the top of the cliff. The outcrop seems to be in dismantlement, with the chert breaking from the parent rock. The nodules are oval, between 4 to 8cm, with cortex and easy to remove from the parent rock.

Petrography analysis form

❖ TEXTURAL COMPOSITION

Texture: Packstone, Wackestone

Microstructure: Massive

❖ COMPOSITION

ORTHOCHEM	Type	%	Description
MiC quartz (gr)	SE	84	-
Dolomite	SE	10	Present in the cortex area and at the edges of the chert.
MG quartz (gr)	-	1	Present only in the cortex, possibly replacing fossils.
Chalcedony (gr)	SE	5	Replacing fossils.
Muscovite (mica)	AC	<1	-

ALLOCHEM	Freq	Description
Oxide grains	Common	-
Oxide patina	Uncommon	-

BIOCLASTS	Freq	Description

Unidentifiable fossil (ghosts)	Very frequent	-

- OTHER TEXTURAL CHARACTERISTICS

Total porosity (%): 5

Porosity type: Vuggy

Other sedimentary structures: -

Observations

- Fractures are very frequent in the chert.
- There are two areas with macroscopic color differences and petrographic differences.
- Several fossils have been replaced by different generations of quartz.

Analysis information

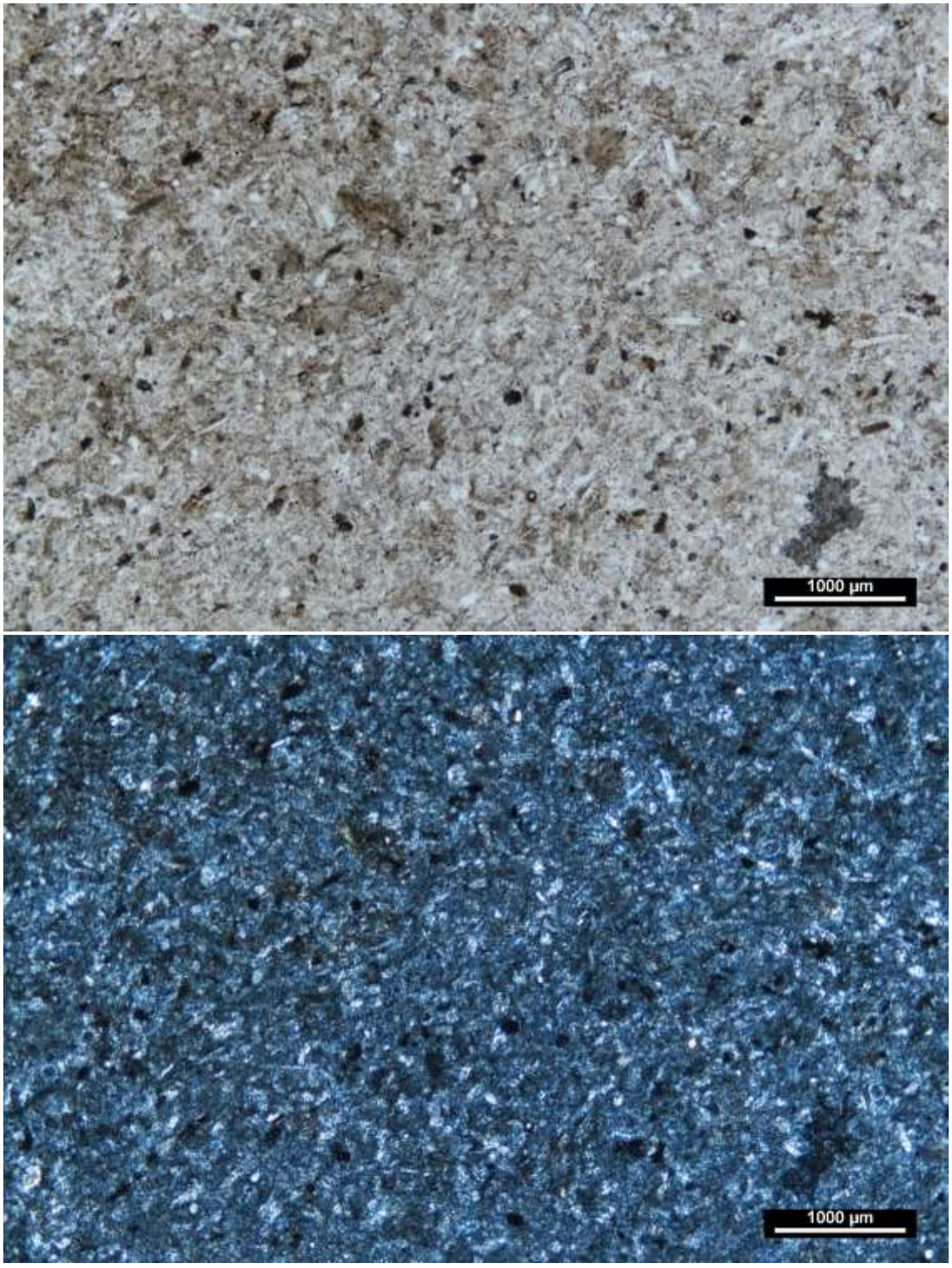
- **ANALYST:** JB
- **DATE:** 06.01.2022
- **EQUIPMENT:** Nikon LV100ND

Photos

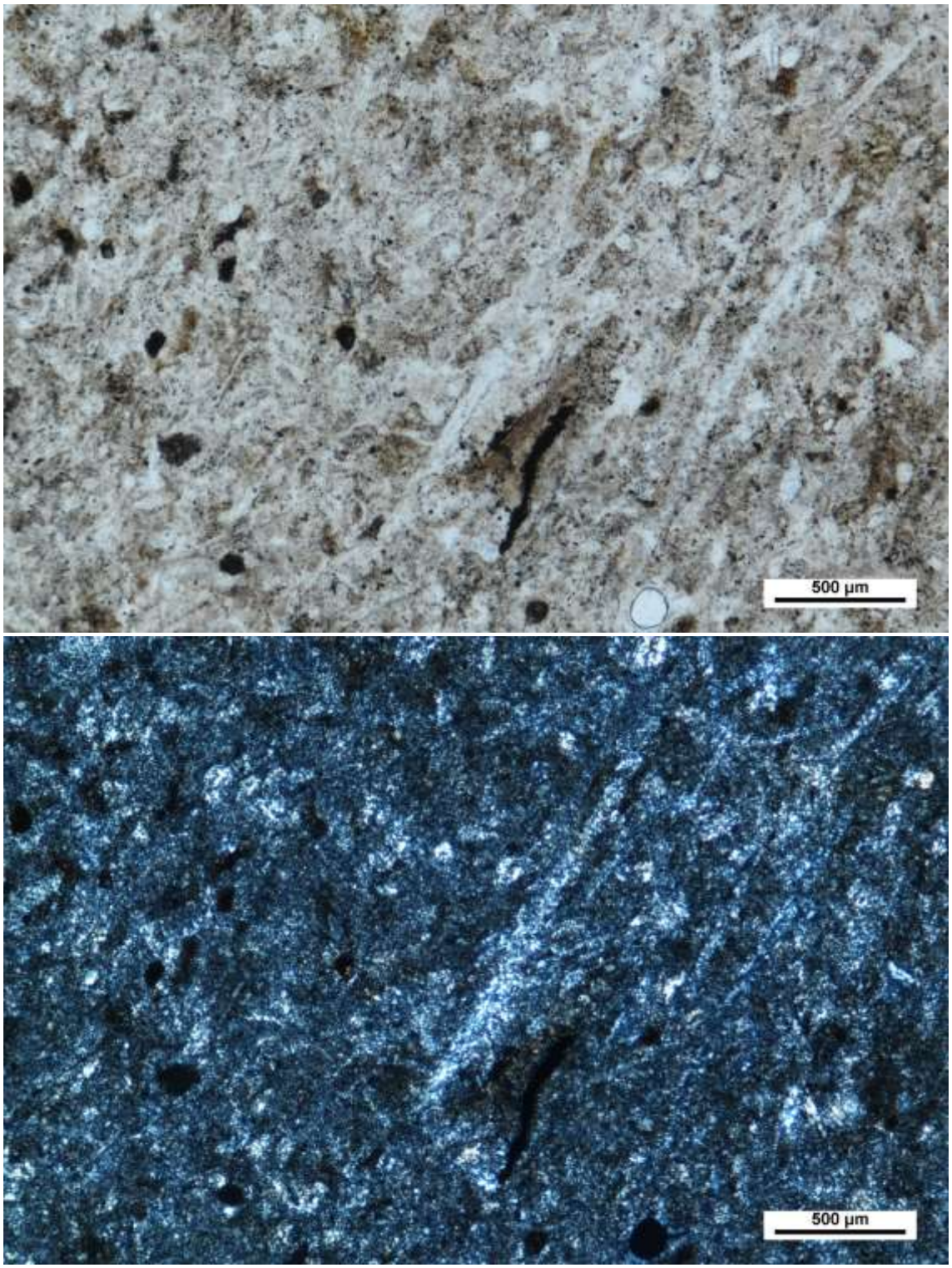
Photo ID	Aug.	Description
SP34_b_001	2x	General view of the chert. Several oxide grains and oxide patina are present. Bioclasts are very frequent but poorly preserved.
SP34_b_002	4x	Detail of the fossil ghosts. There is a high frequency of long fossils which may be longitudinal sections of echinoderm spines, although this attribution is uncertain.

SP34_b_003	10x	Detail of unidentifiable fossil ghosts replaced by chalcedony.
SP34_b_004	10x	Detail of unidentifiable fossil ghosts replaced by fibrous chalcedony.
SP34_b_005	10x	Detail of unidentifiable fossil ghosts. A mica/muscovite grain might be present in the sample.
SP34_b_006	4x	Contact between the chert and the parent rock. Several dolomite crystals are present in the chert close to the contact. Large macrocrystalline quartz grains are also present in the parent rock.
SP34_b_007	10x	Detail of the dolomite parent rock.

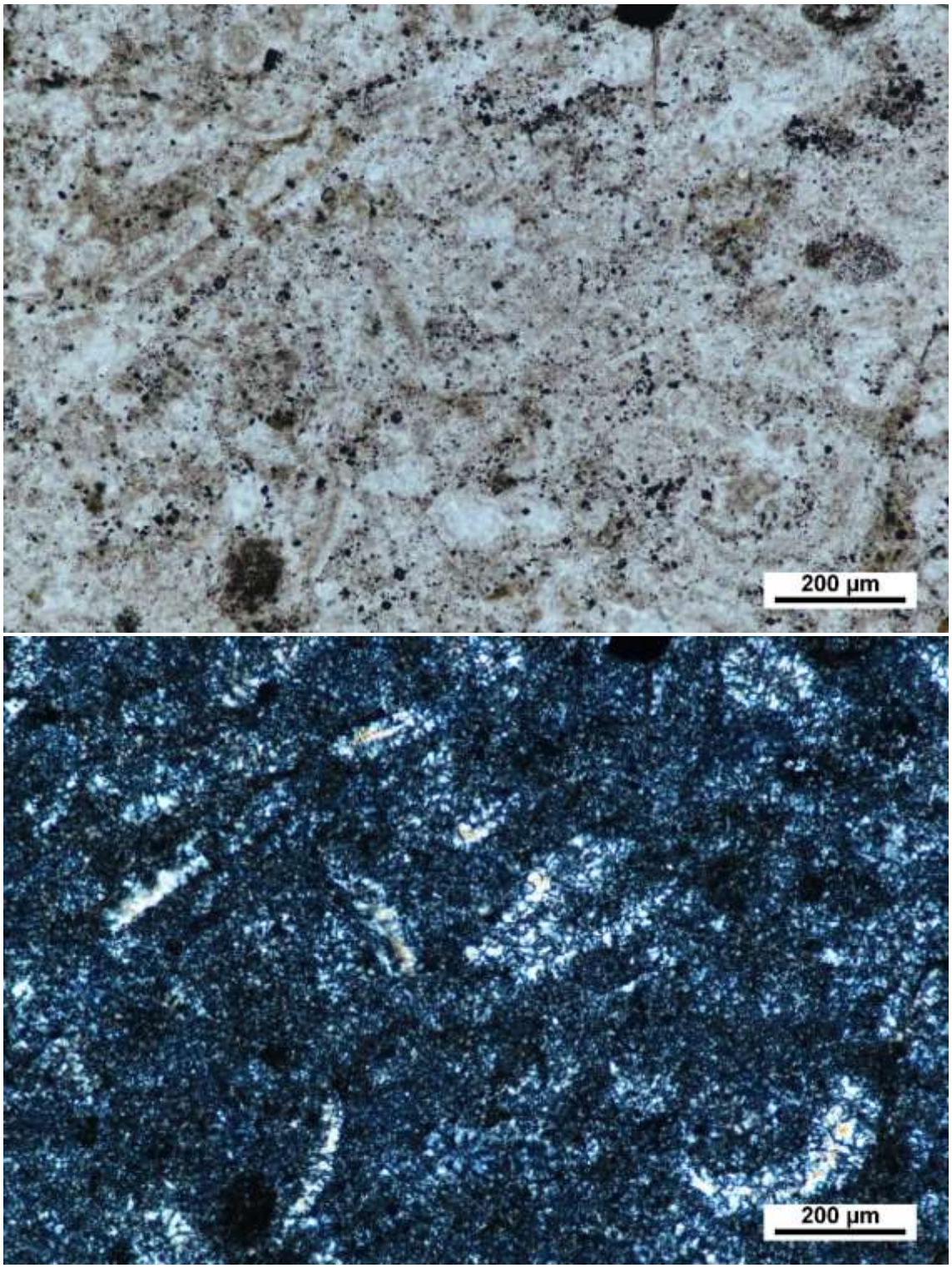
Petrography photos



SP34_b_PtA_001 (PPL and XPL)



SP34_b_PtA_002 (PPL and XPL)



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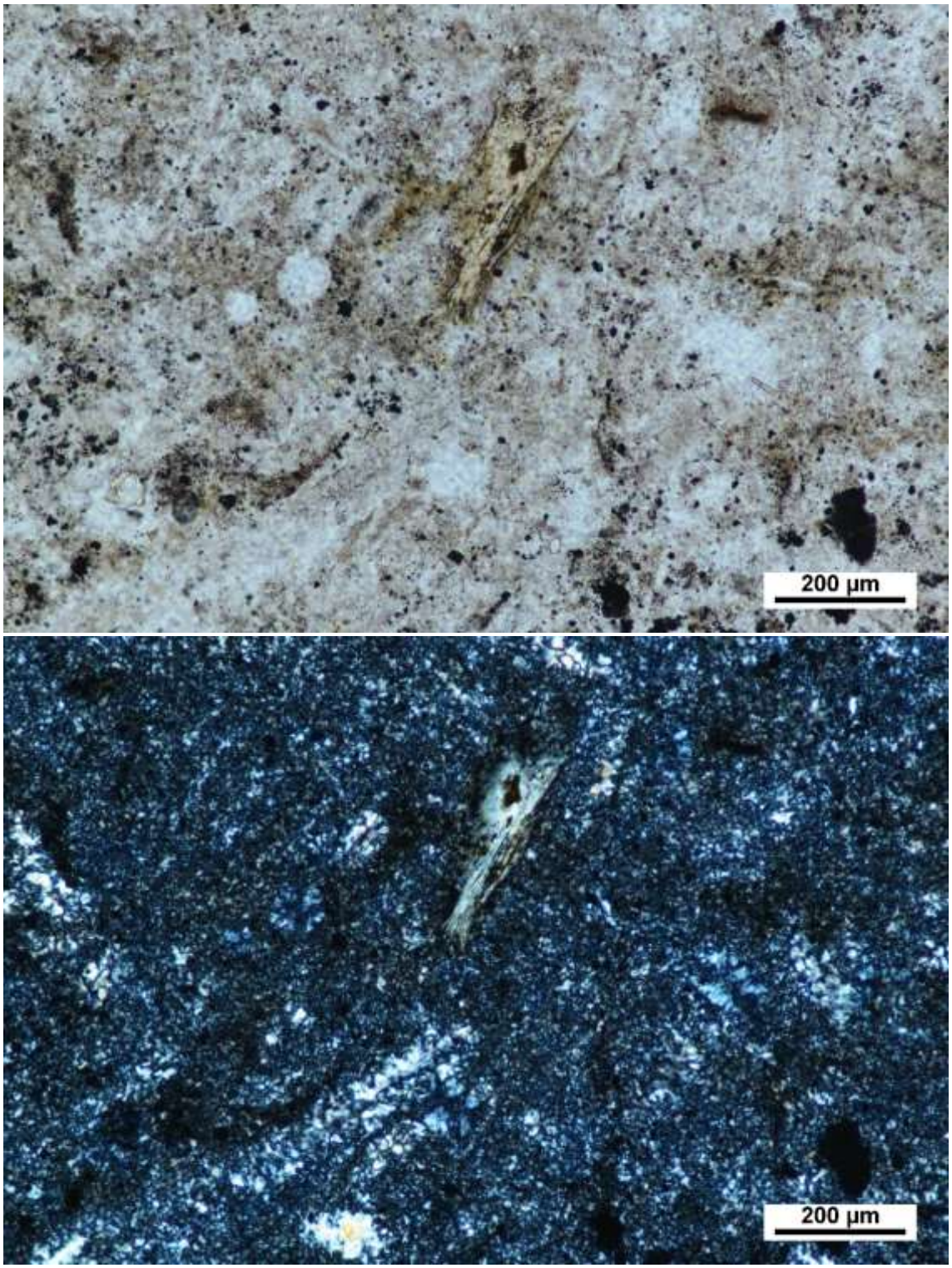
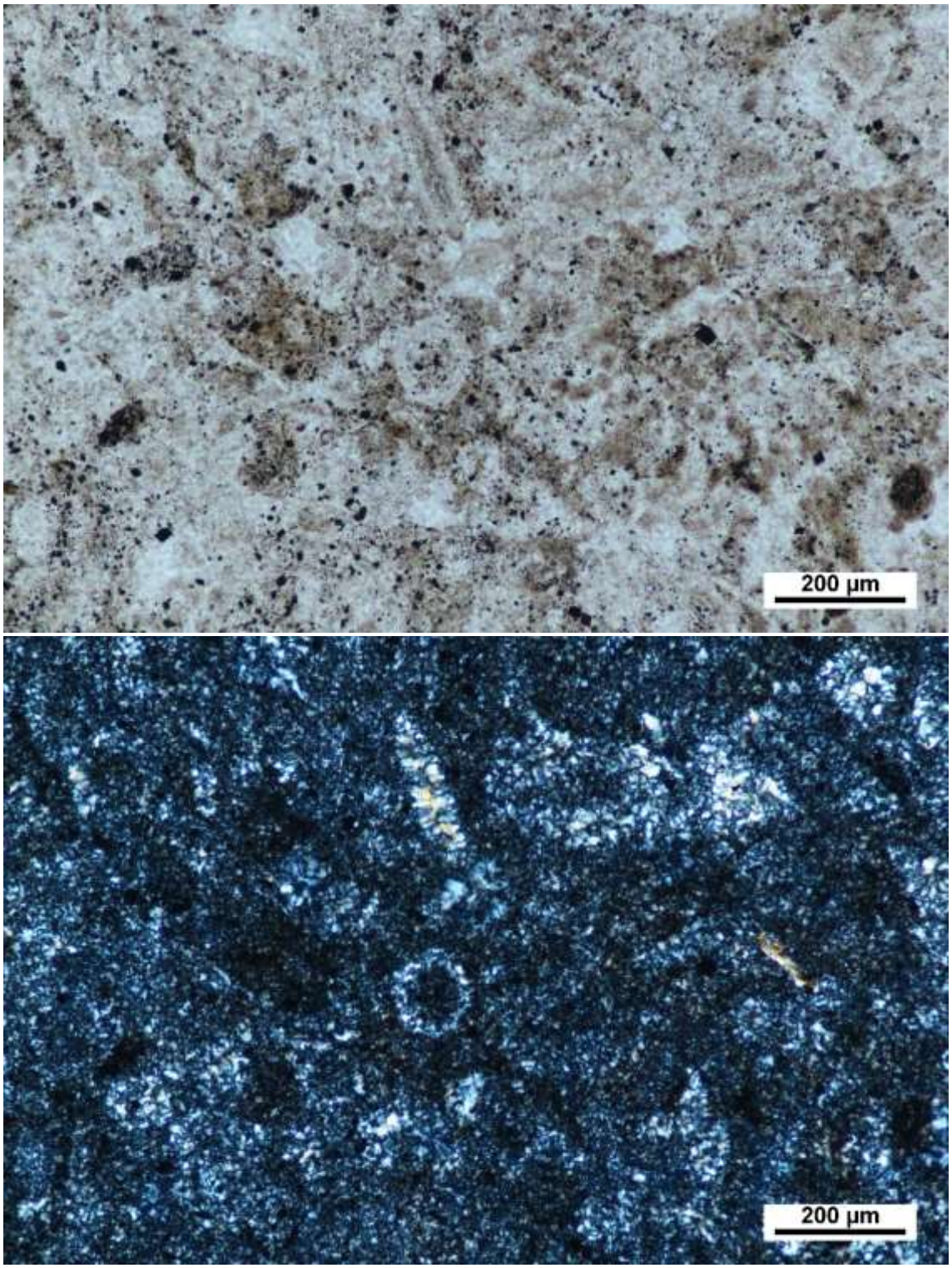
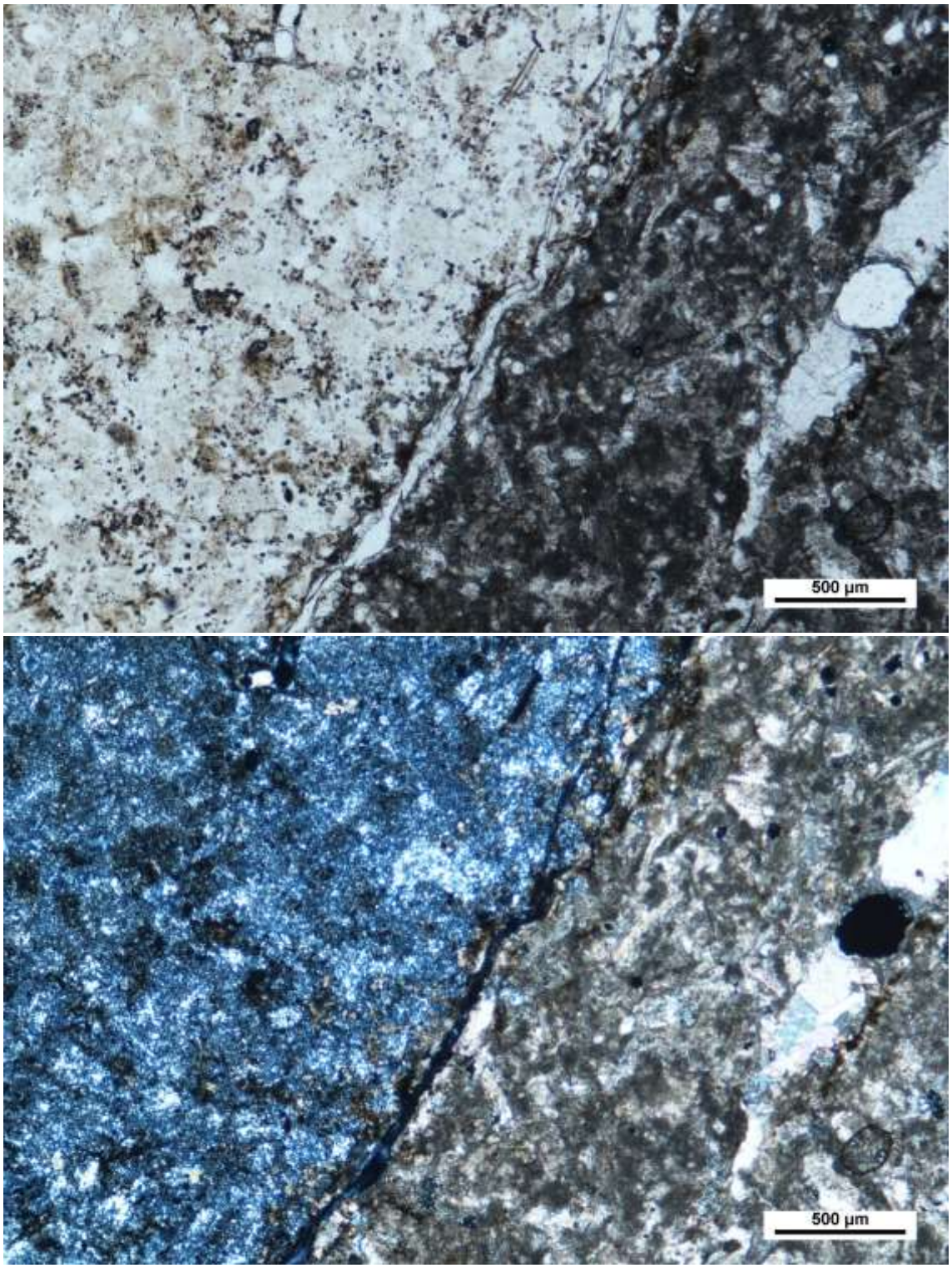


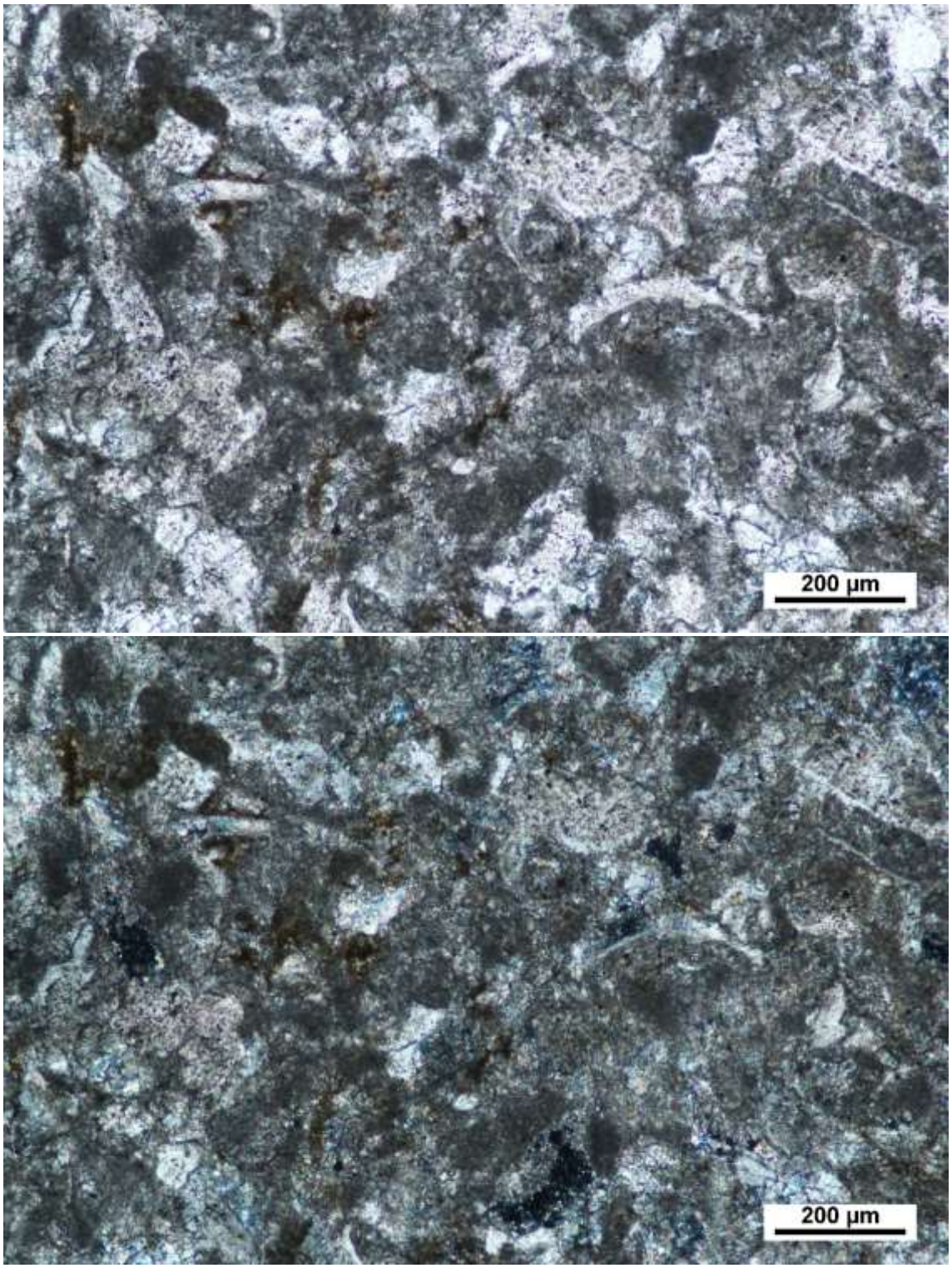
SP34_b_PtA_004 (PPL and XPL)



SP34_b_PtA_005 (PPL and XPL)

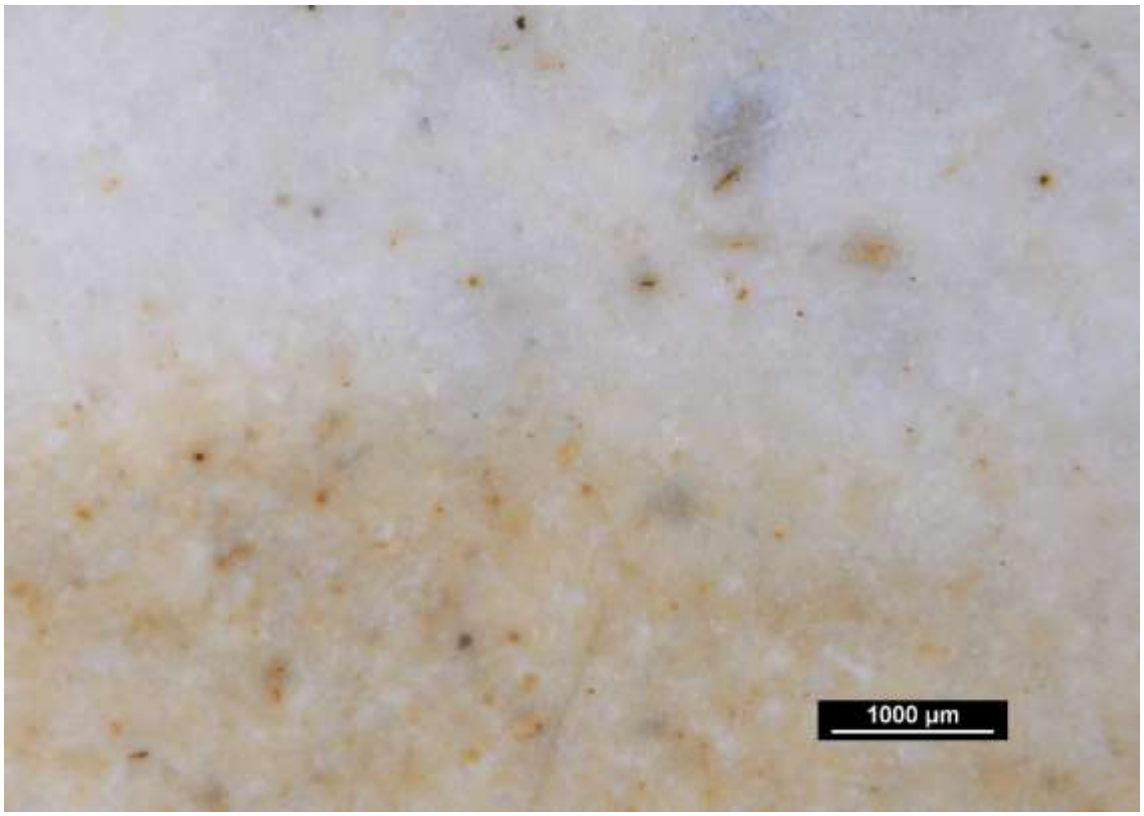


SP34_b_PtA_006 (PPL and XPL)



SP34_b_PtA_007 (PPL and XPL)

Macroscopic photos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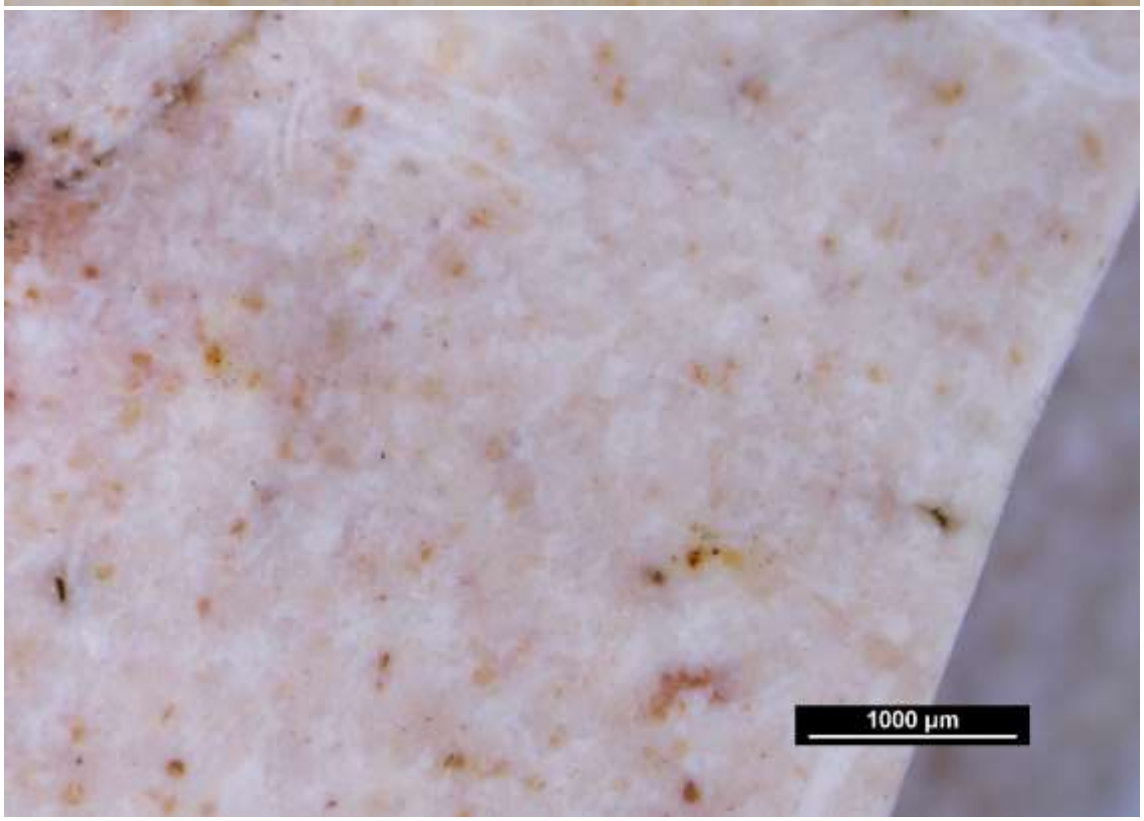
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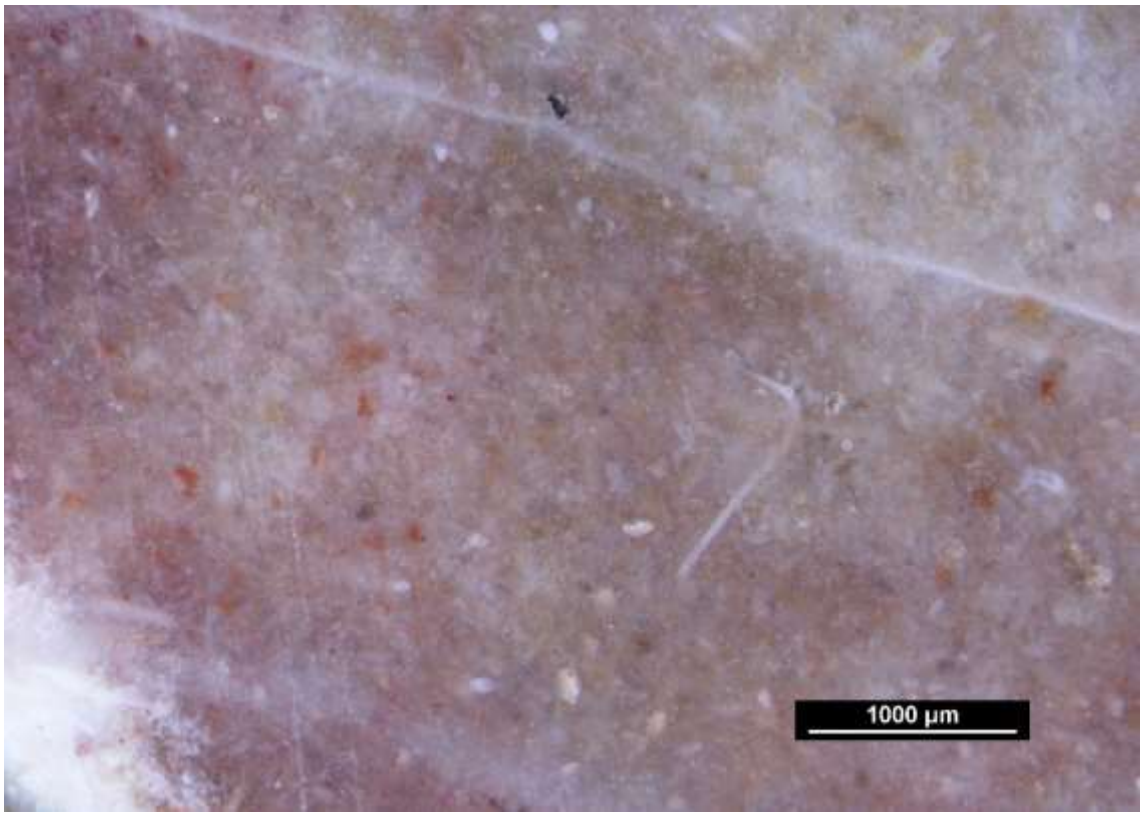
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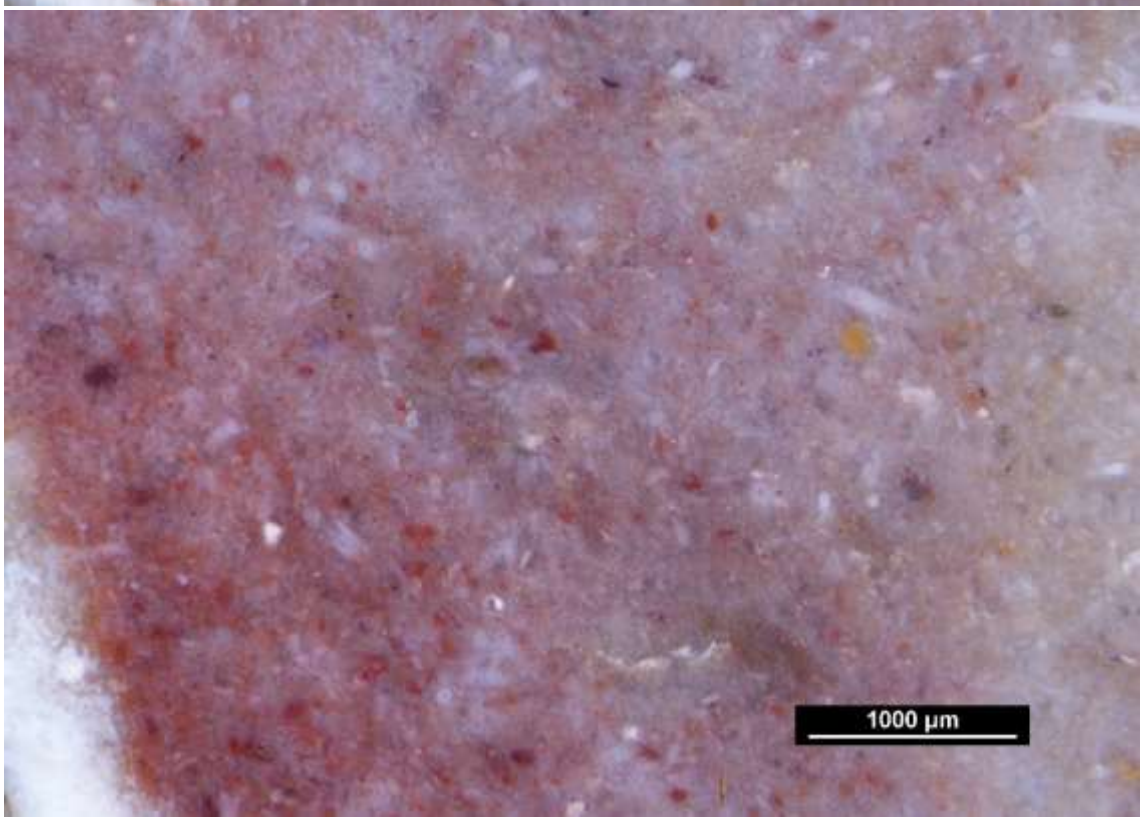
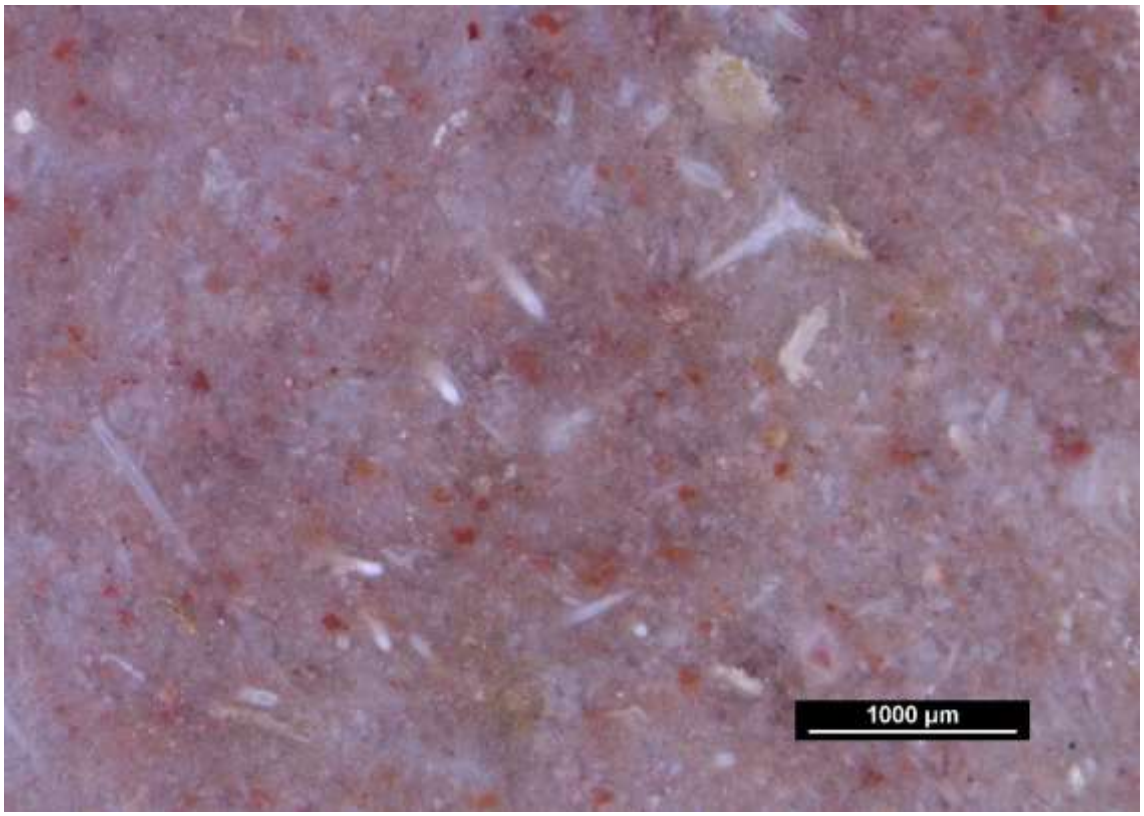

1000 µm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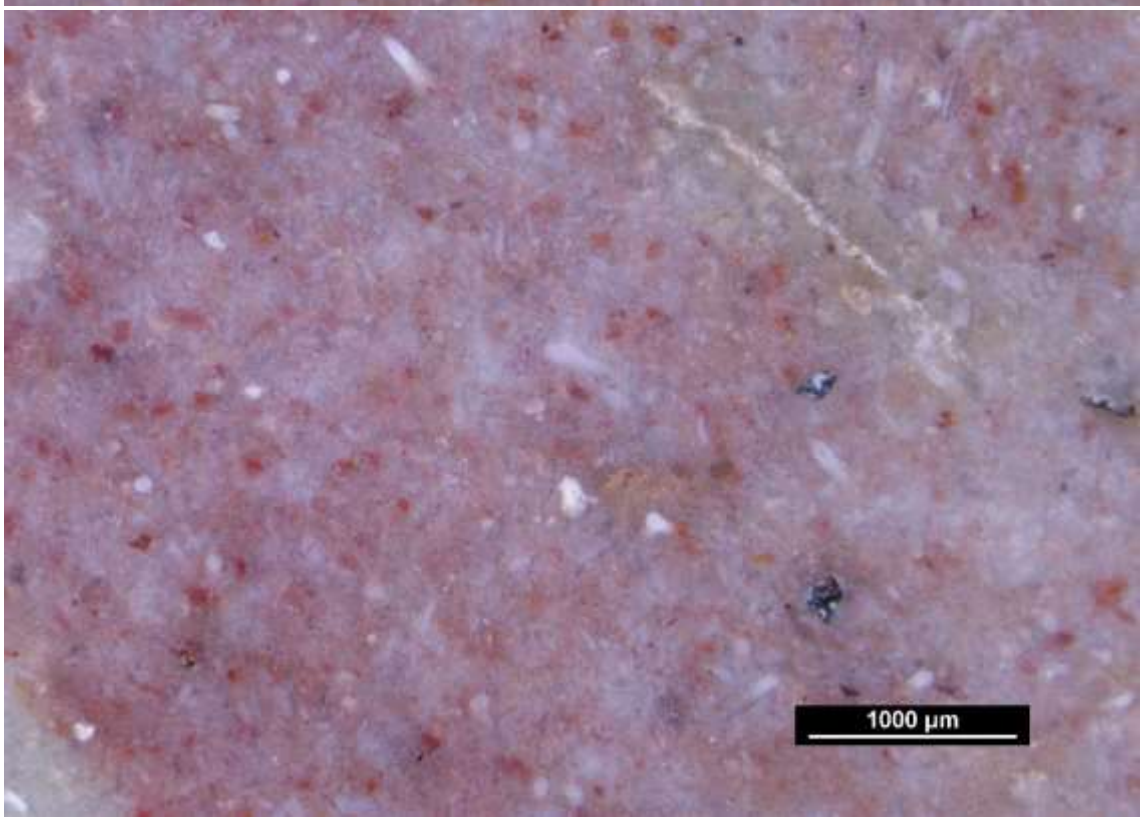
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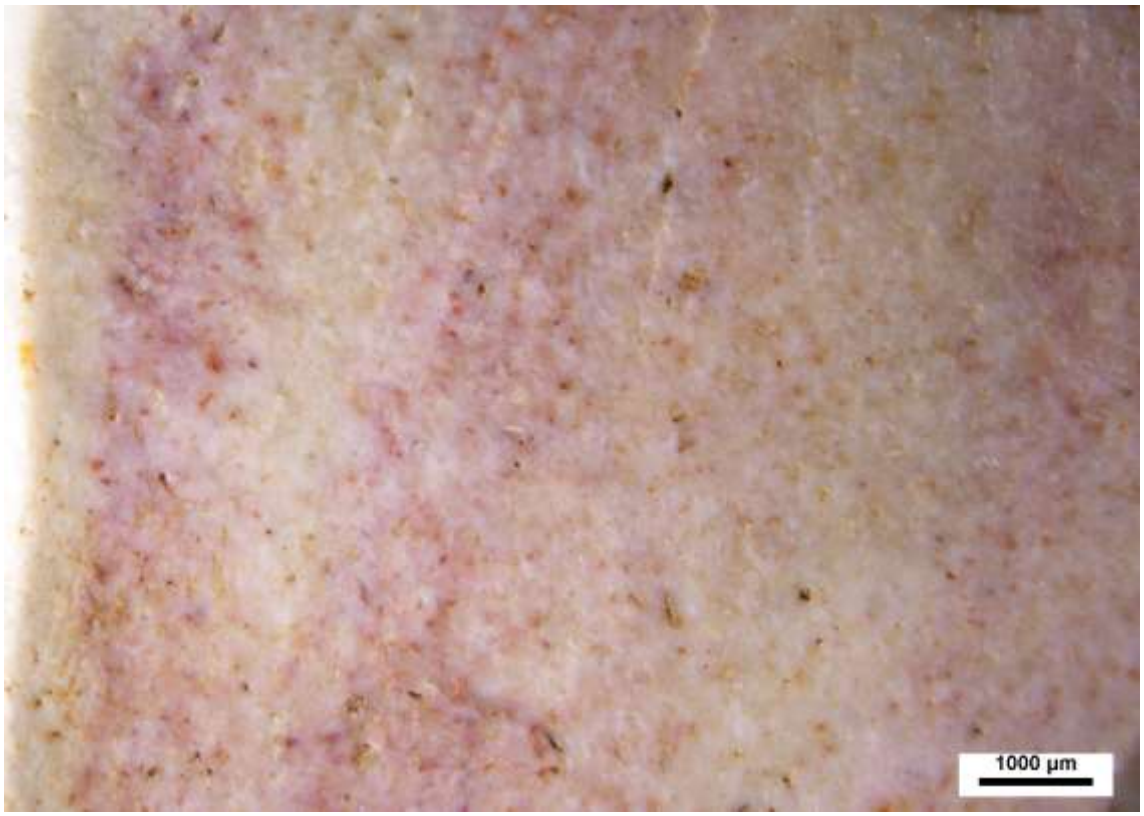
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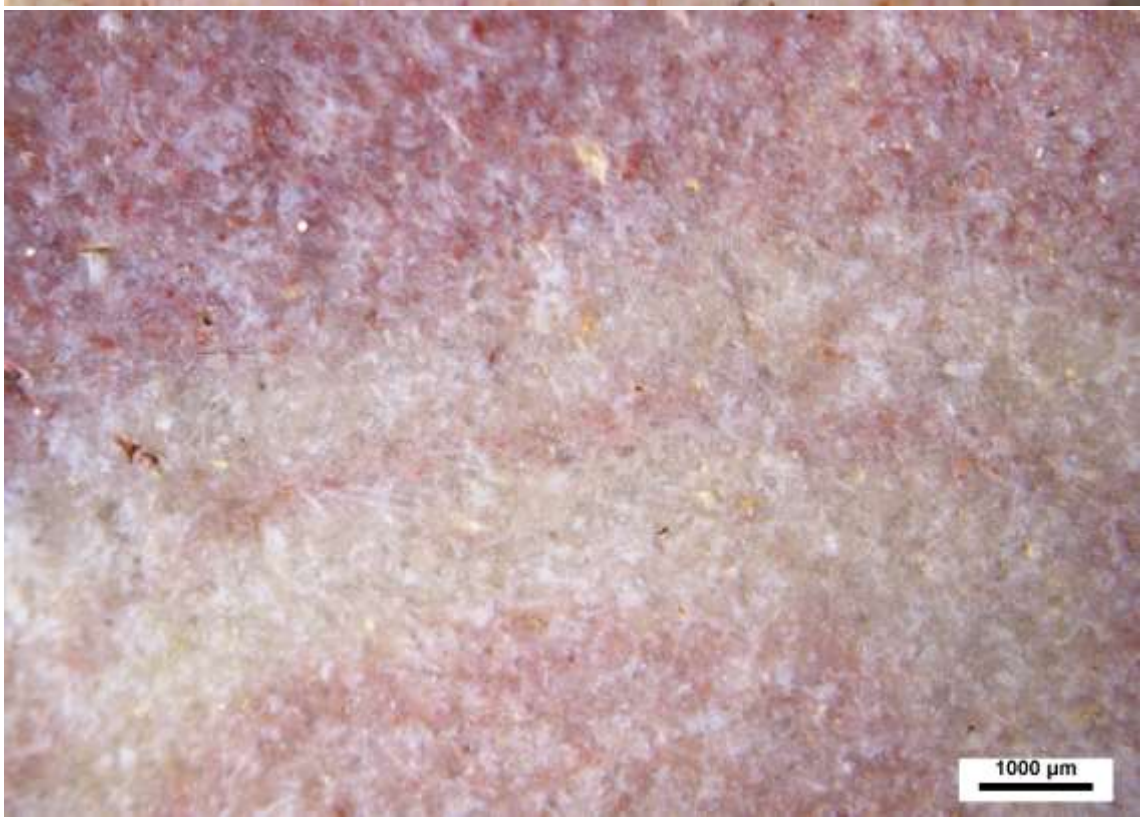
1000 µm