Sample ID and provenance

Sample ID: SP15_PBX

Lithology: Chert

Collection: LusoLit

Outcrop: Praia de Belixe

Unit/facies: Lower Jurassic

Thinsection: Yes

Macroscopic description

- COLOR

The color distribution is Mix diffuse and Mix sharp. The colors are Pale red (10R 6/2), Gray (2.5Y 5/1) and White (10YR 8/1).

- FABRIC

The luster is Dull and the translucency is Opaque with Sub-translucent areas. The feel is Rough and the grain is Fine. The structure is Uneven with a Gradual and Abrupt variation. The patterns are Shaded, Spots (50-99%) and Lines (1-49%). The spots are Spotted, Broad mottling and Speckling, with an Uneven distribution. The lines are Horizontal Laminated and Banded, with an Even distribution.

- INCLUSIONS AND FOSSIL CONTENT

-

- CORTEX

The cortex is from an Outcrop, Thin, with a Sharp transition and a white coloration. When tested with dilute hydrochloric acid (HCL 10%), the reaction was Weak or non-existent. The parent rock may be a dolomite.

- QUALITY

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

- OBSERVATION

The samples show varying degrees of dolomitization, which creates different fabrics within one single nodule.

The proximity to the coast line may lead to chemical and physical alterations, such as the presence of pits in the exposed surfaces of the chert.

Outcrop description

- OUTCROP CHARACTERISTICS

Type of outcrop: Primary

Visibility: Good

Accessibility: Easy

State of site: Good

- CHERT NODULES/BEDS DESCRIPTION

Type of chert nodule: Nodule/Bedded

Sample variability: Homogeneous

Frequency: Abundant

Nodule description: The cherts can be found as nodules, often oval but also irregular, as large as 20cm, but also as bedded cherts.

- SHORT DESCRIPTION

The cherts are embedded in the cliffs, appearing as nodules of varying shapes and sizes, but also bedded. Whenever bedded, the chert seems to be more brittle and fractured. The nodules are more abundant than the bedded cherts. Despite these differences, these cherts are similar.

Petrography analysis form

❖ TEXTURAL COMPOSITION

Texture: Wackstone

Microstructure: Massive

❖ COMPOSITION

ORTHOCHEM	Type	%	Description
MiC quartz (gr)	SE	85	-
Dolomite	SE	3	Mostly in dolomitized areas on the outside of the nodule, but also replacing silica within fossils.
Chalcedony (fb)	SE	2	Replacing circular fossils.
MG quartz (gr)	SE	5	Replacing unidentifiable fossils.

ALLOCHEM	Freq	Description
Oxide grains	Common	-
Oxide patina	Very frequent	Filling fractures.

BIOCLASTS	Freq	Description
Ghosts	Common	Some of the fossils, although with no structure, are spherical and concentrated in some areas. The other

	common types of shapes for unidentifiable fossils are long and thin fossils.

- OTHER TEXTURAL CHARACTERISTICS

Total porosity (%): 1

Porosity type: -

Other sedimentary structures: -

Observations

- -

Analysis information

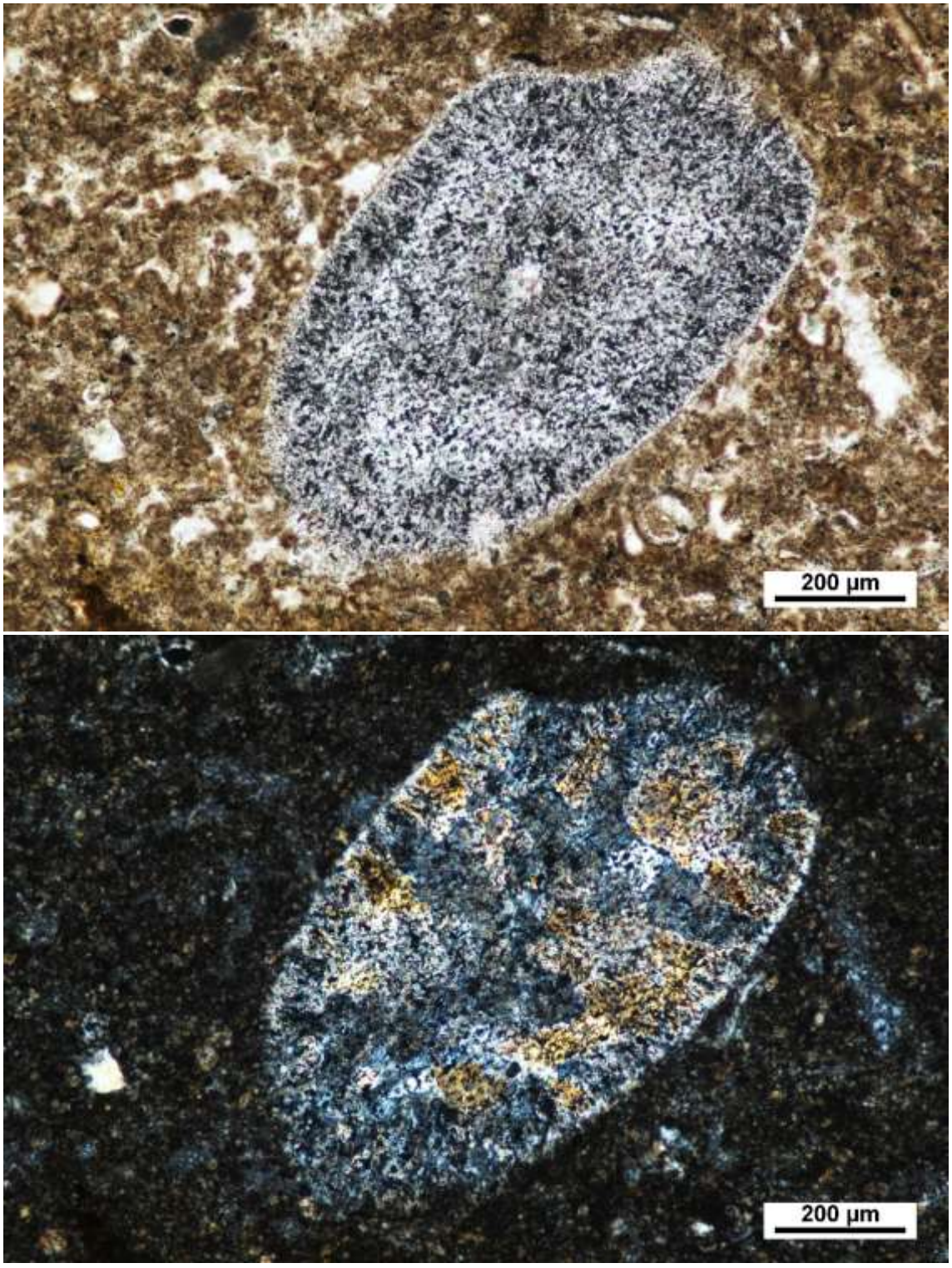
- ANALYST: JB
- DATE: 06.01.2022
- EQUIPMENT: Nikon LV100ND

Photos

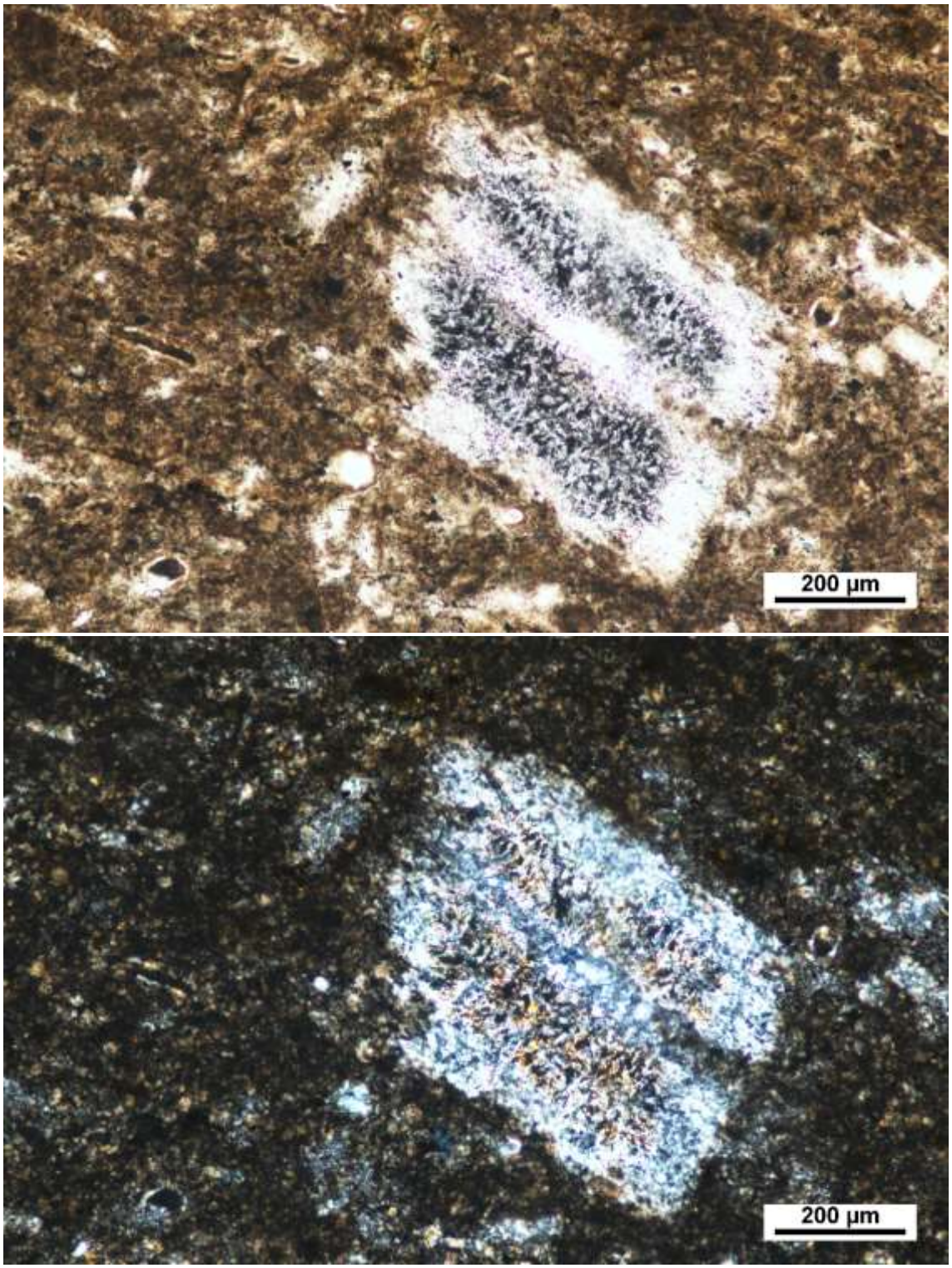
Photo ID	Aug.	Description
SP15_001	-	An unidentifiable fossil filled with two generations of quartz: the 1st generation is the outer, microcrystalline quartz “shell”, and the 2nd generation is the macrocrystalline quartz grain within the fossil.
SP15_002	-	-
SP15_003	-	Diffuse boundary area between the dolomite and chert.
SP15_004	-	Poorly preserved unidentifiable fossil. The fossil is composed of two generations of

		filling: 1st generation is an outer layer of quartz, and the 2nd generation is the fossil filling by dolomite rhomboid crystals. The porosity within the fossil seems to represent a 3rd generation, and the porosity is surrounded by an oxide patina.
SP15_005	-	View of poorly preserved fossils and a fracture. The fossils in the photo are mono typical, with spherical shapes and similar sizes.
SP15_006	-	View of a long fossil where two generations of quartz can be identified: a 1st generation at the edges of the fossil, possibly preserving some structure, and a 2nd generation of macrocrystalline quartz within. In the photo there are also circular fossils filled with fibrous chalcedony.
SP15_007	-	-

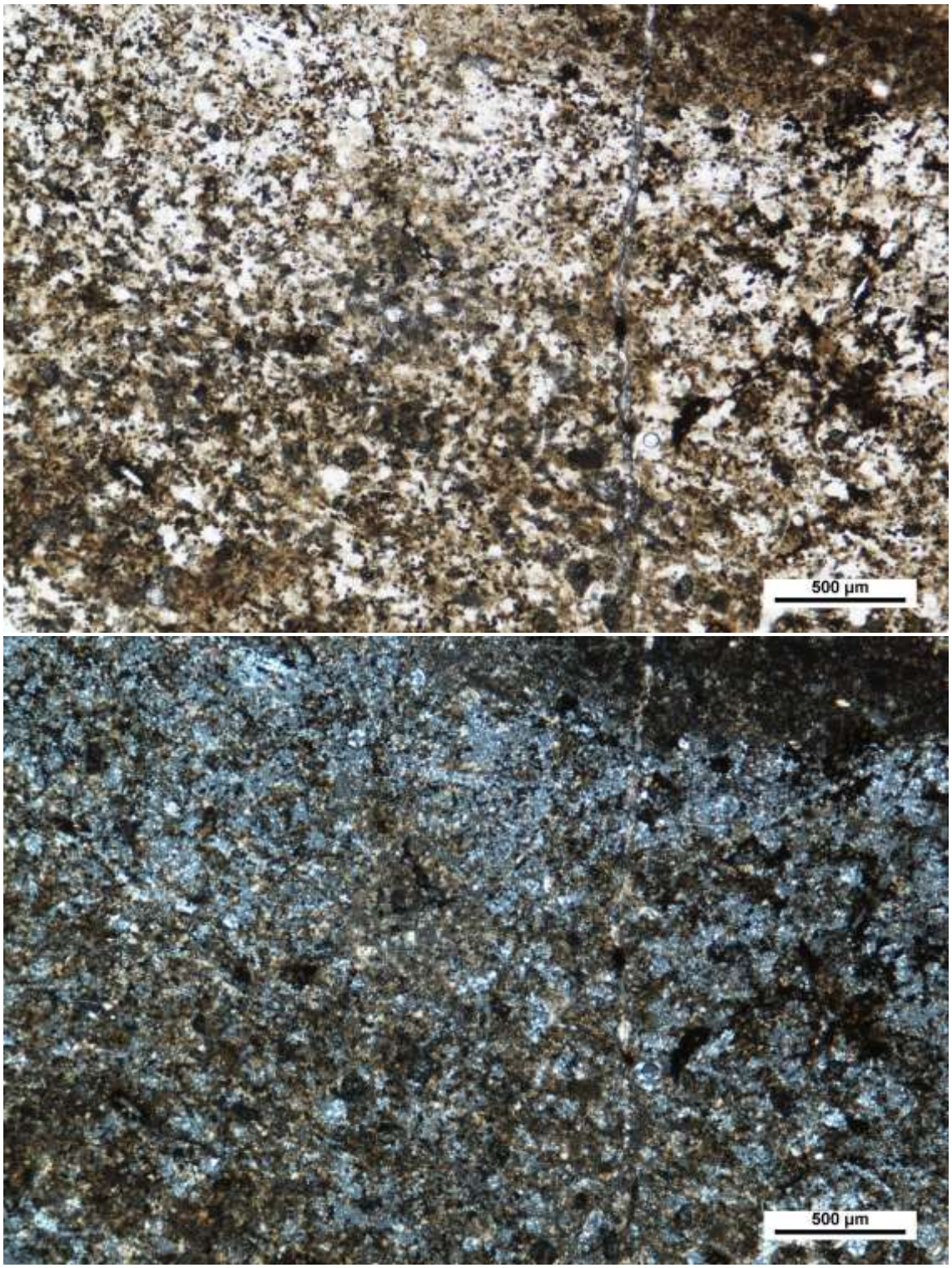
Petrography photos



SP15_PBX_001 (PPL and XPL)



SP15_PBX_002 (PPL and XPL)



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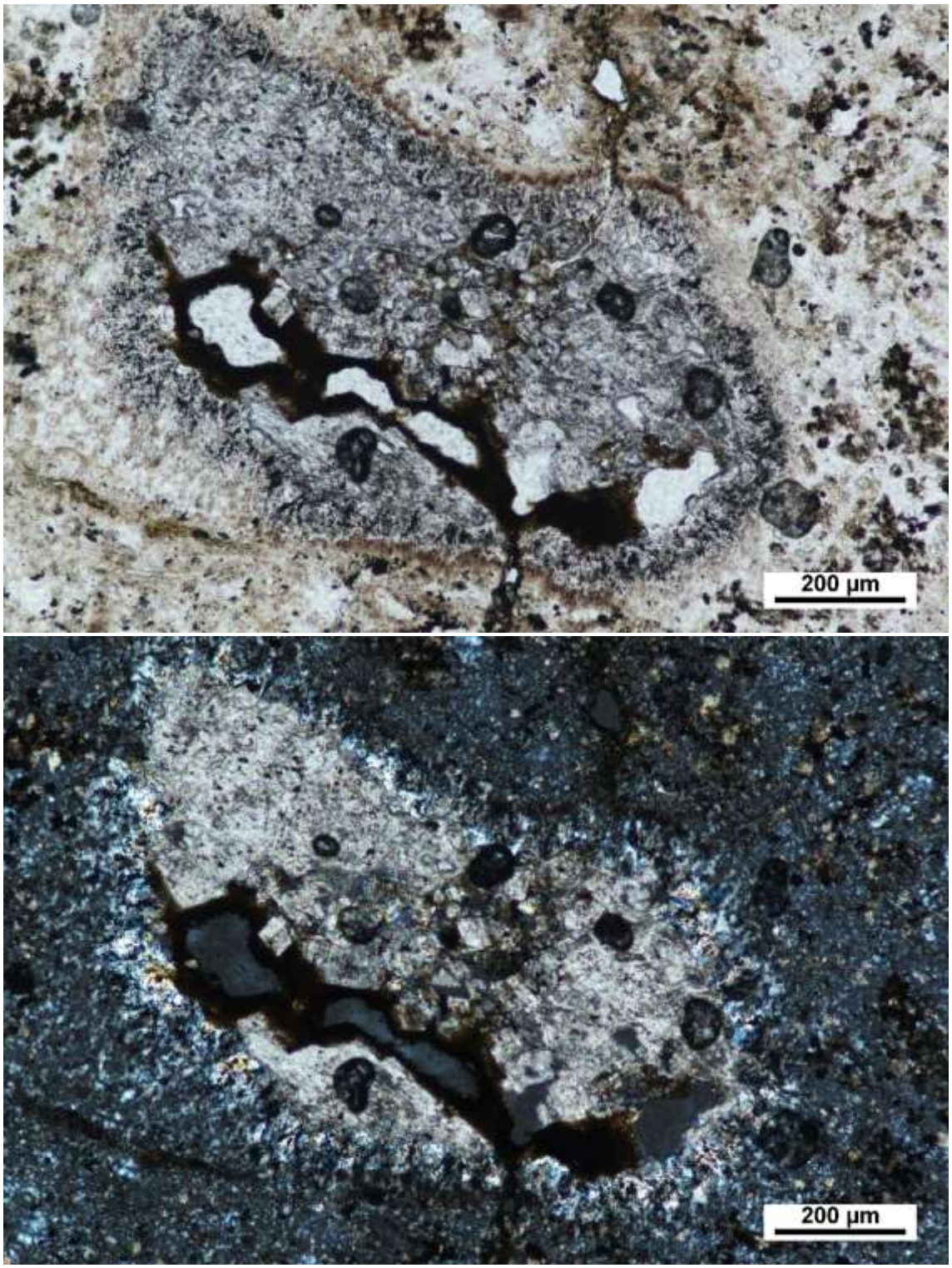

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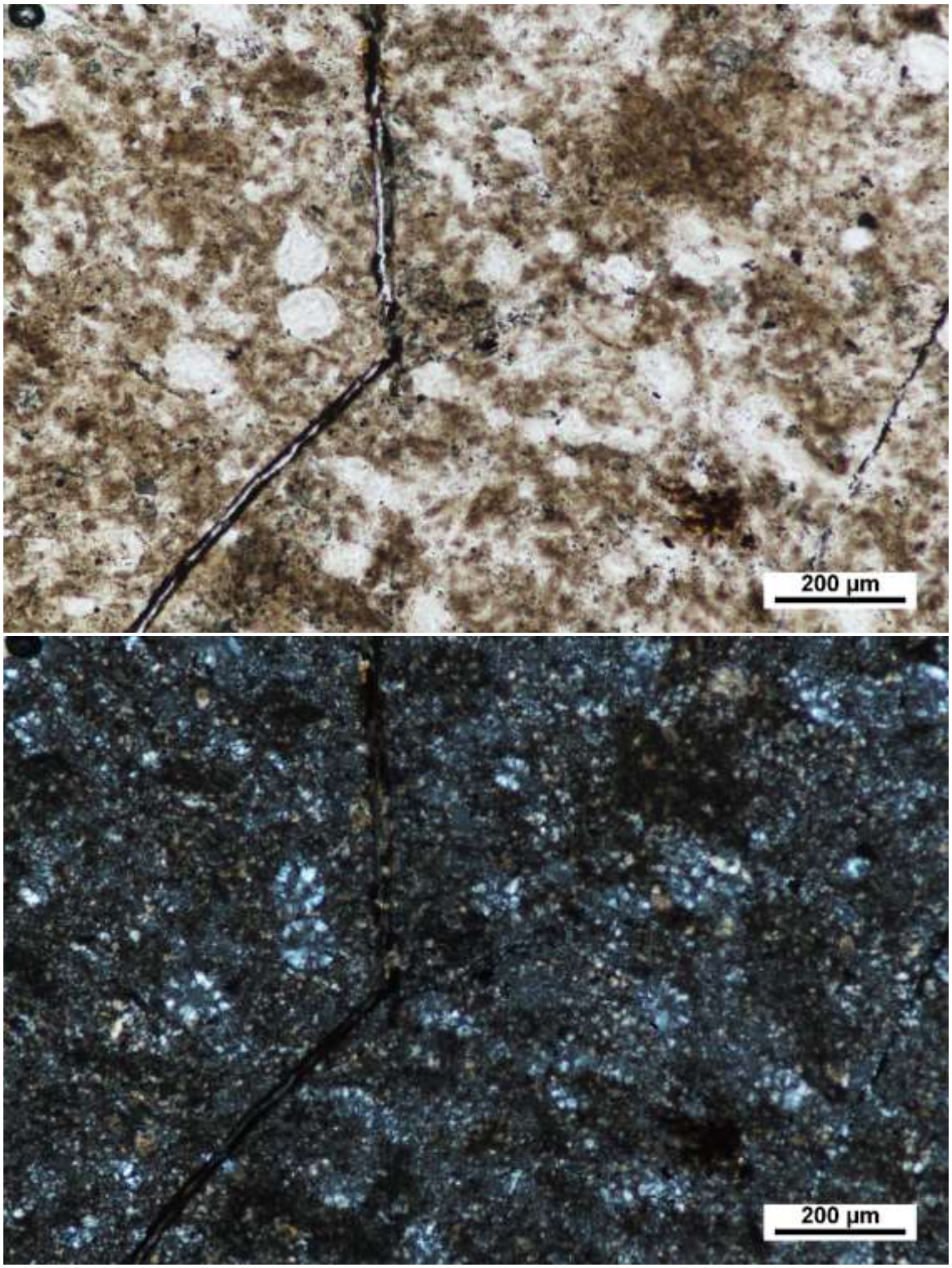

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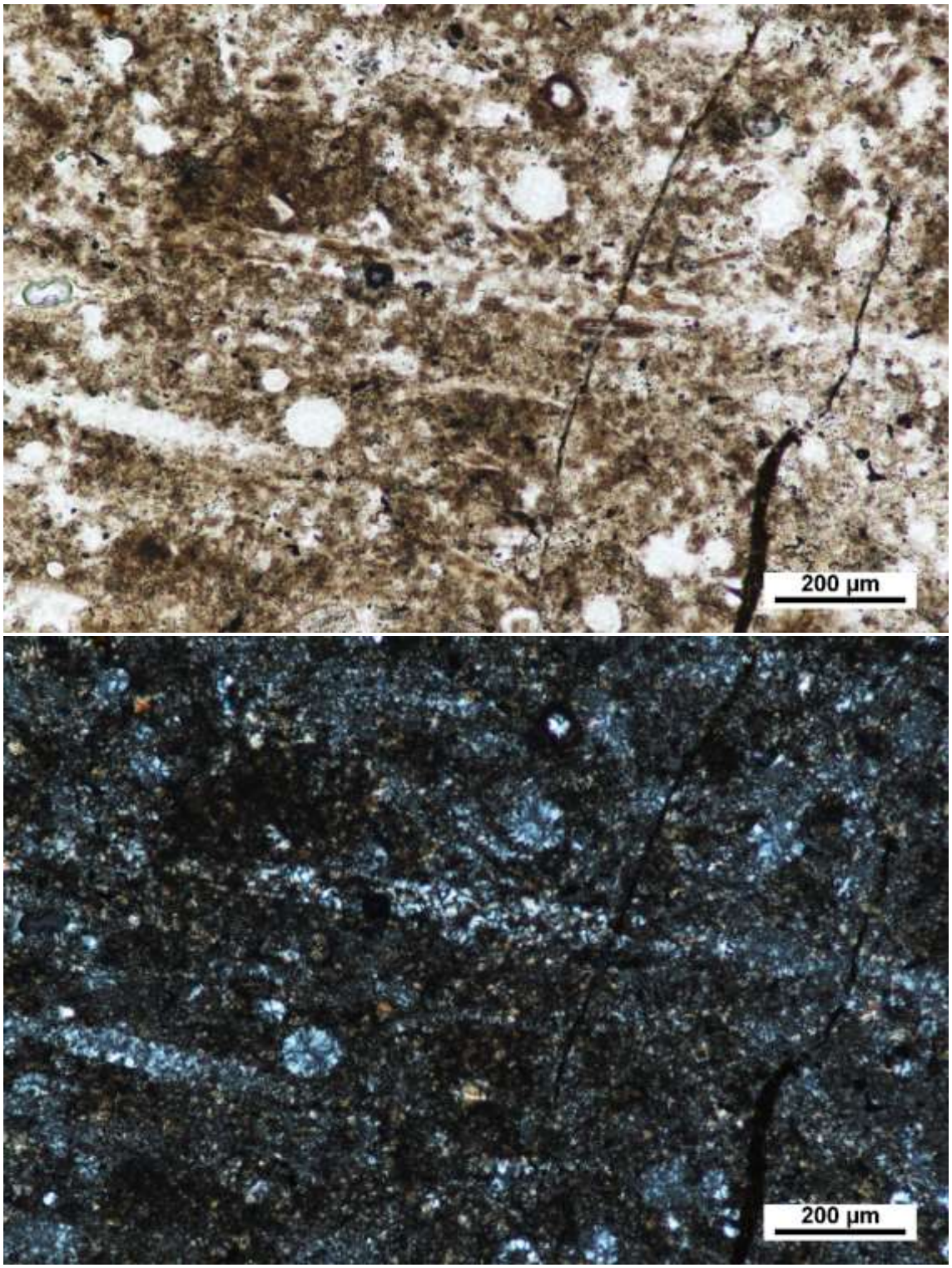
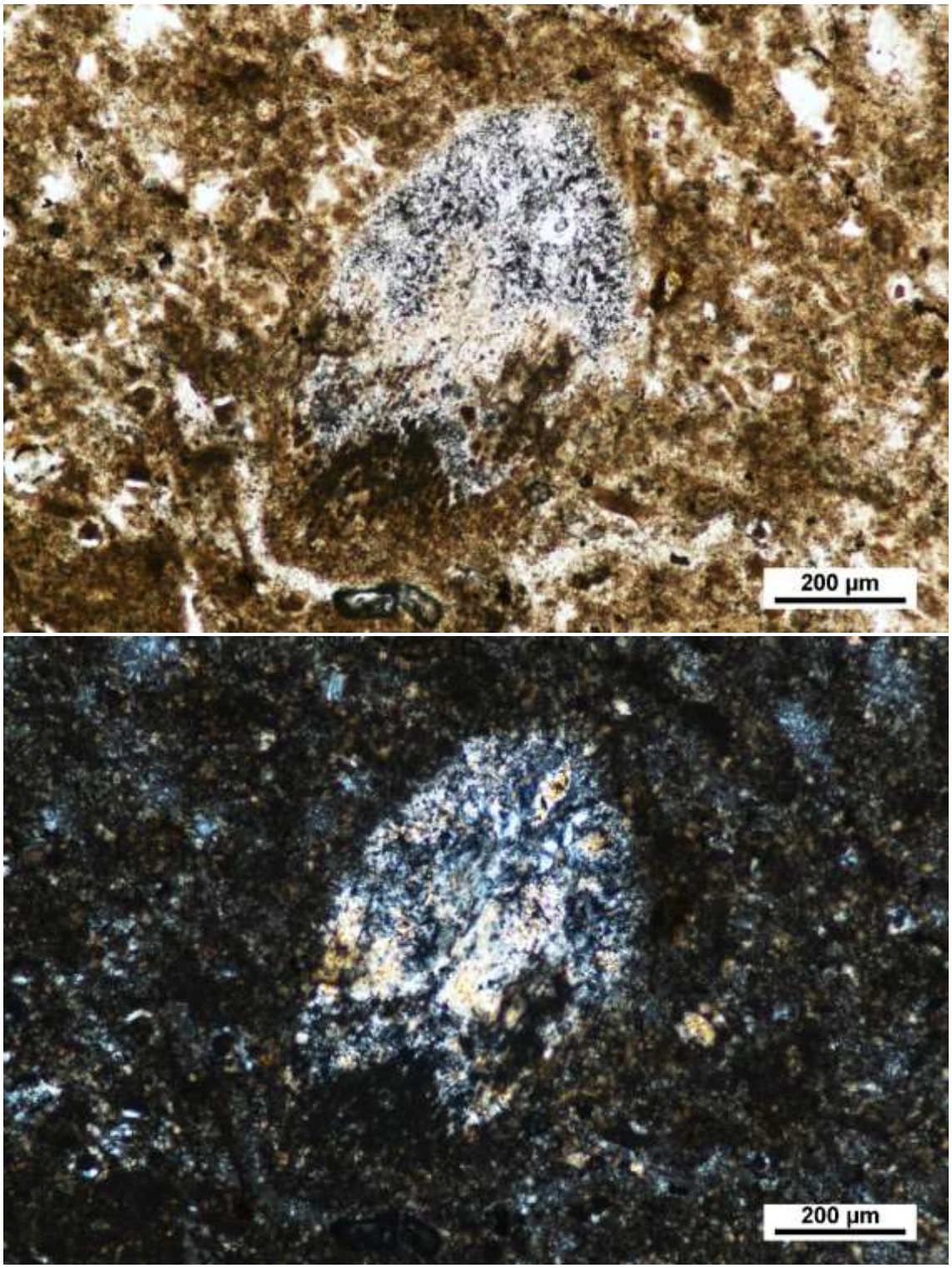
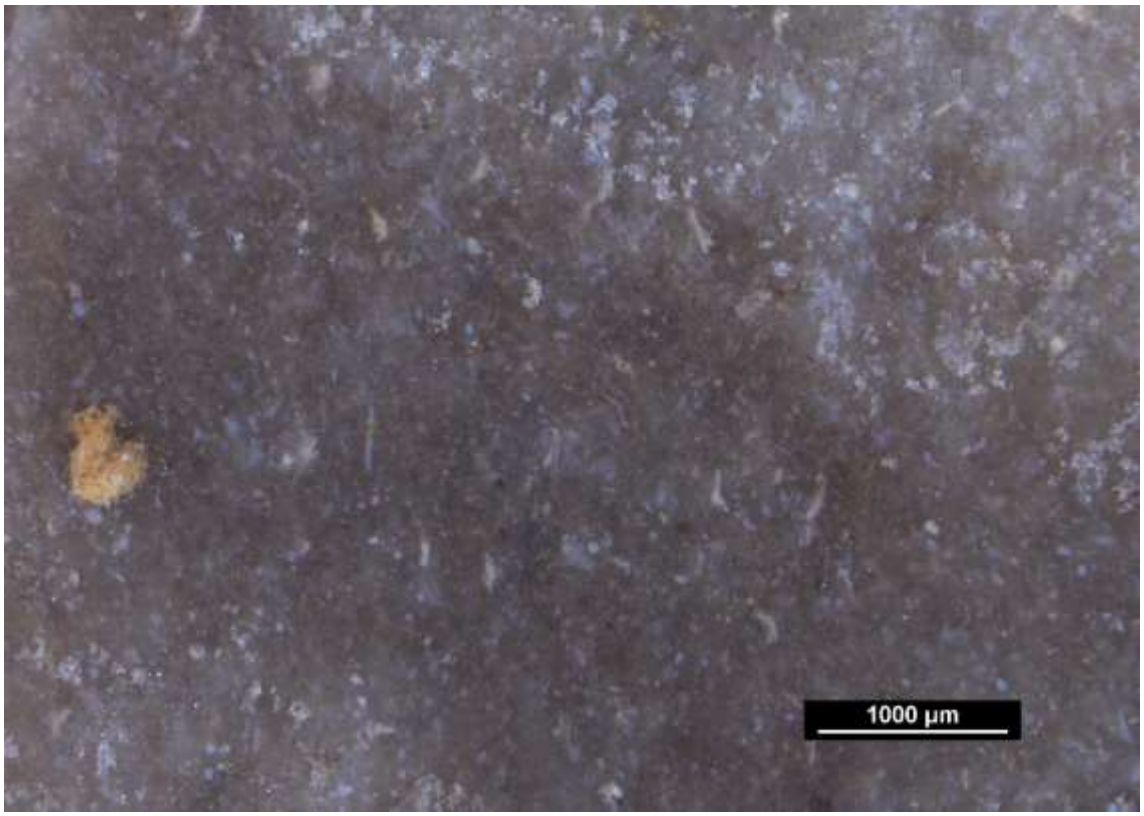


SP15_PBX_006 (PPL and XPL)



SP15_PBX_007 (PPL and XPL)

Macroscopic photos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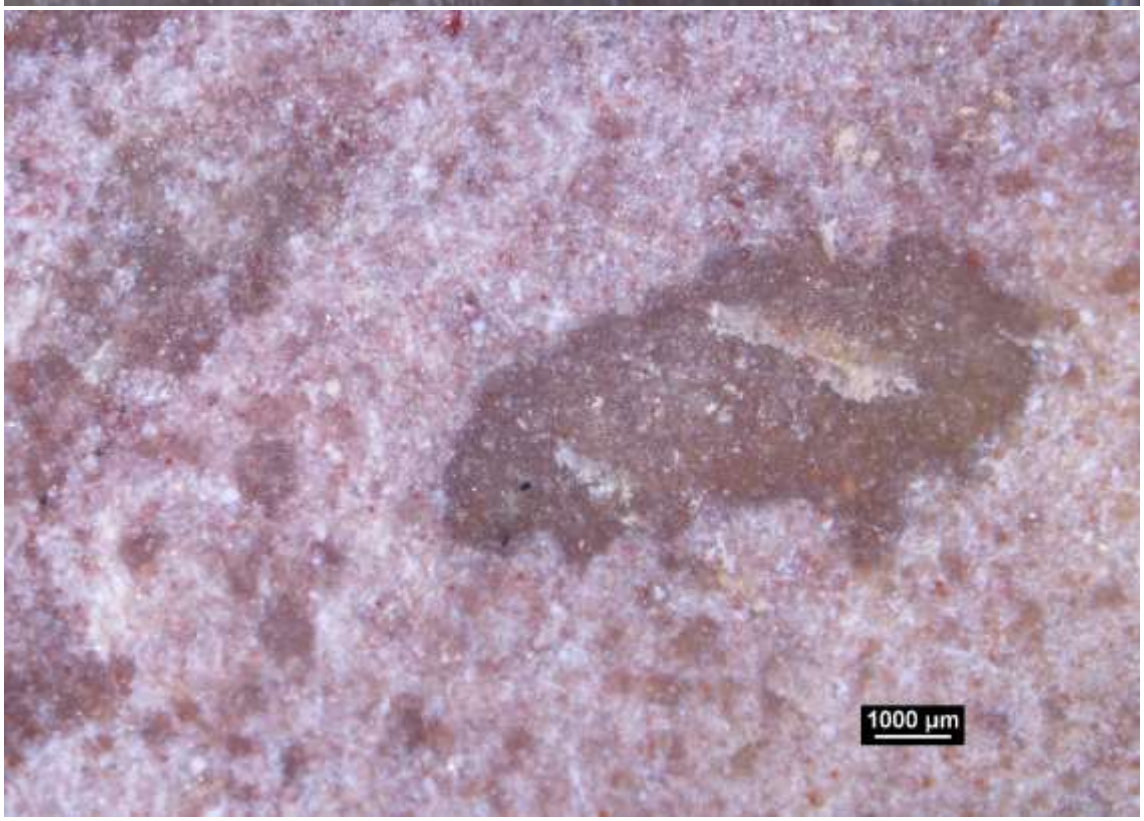
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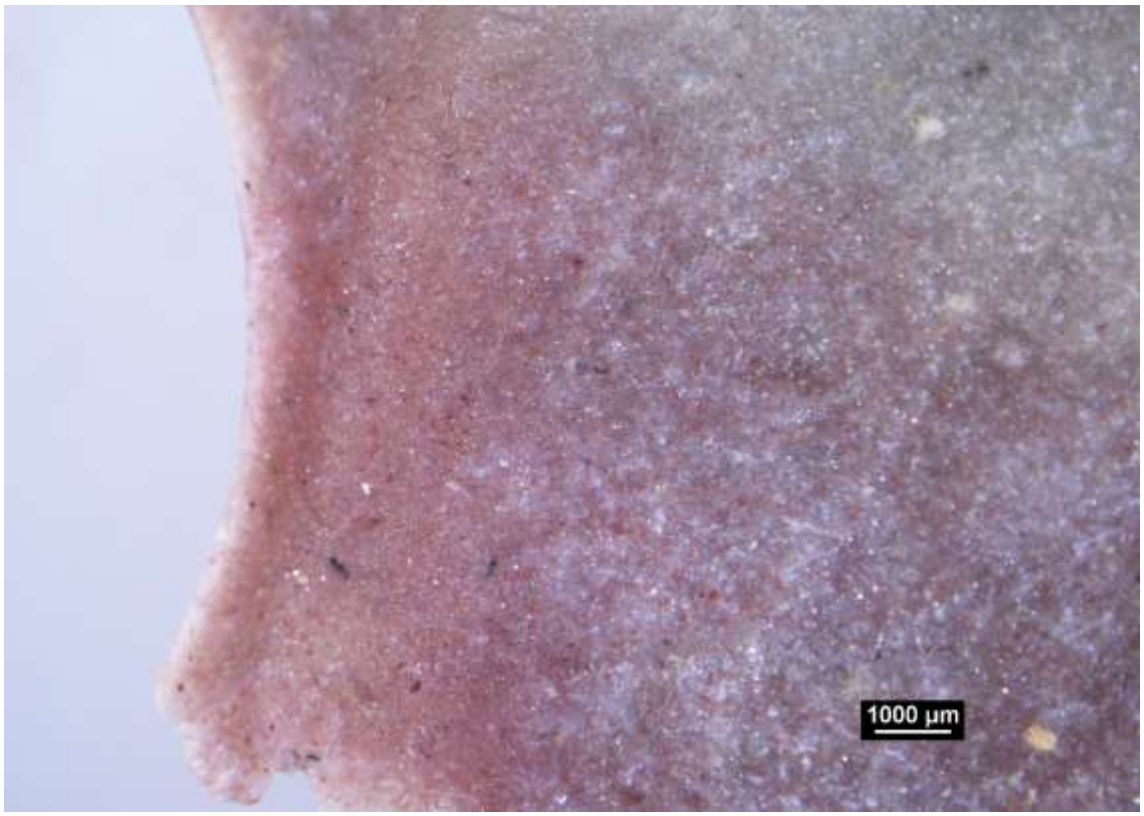
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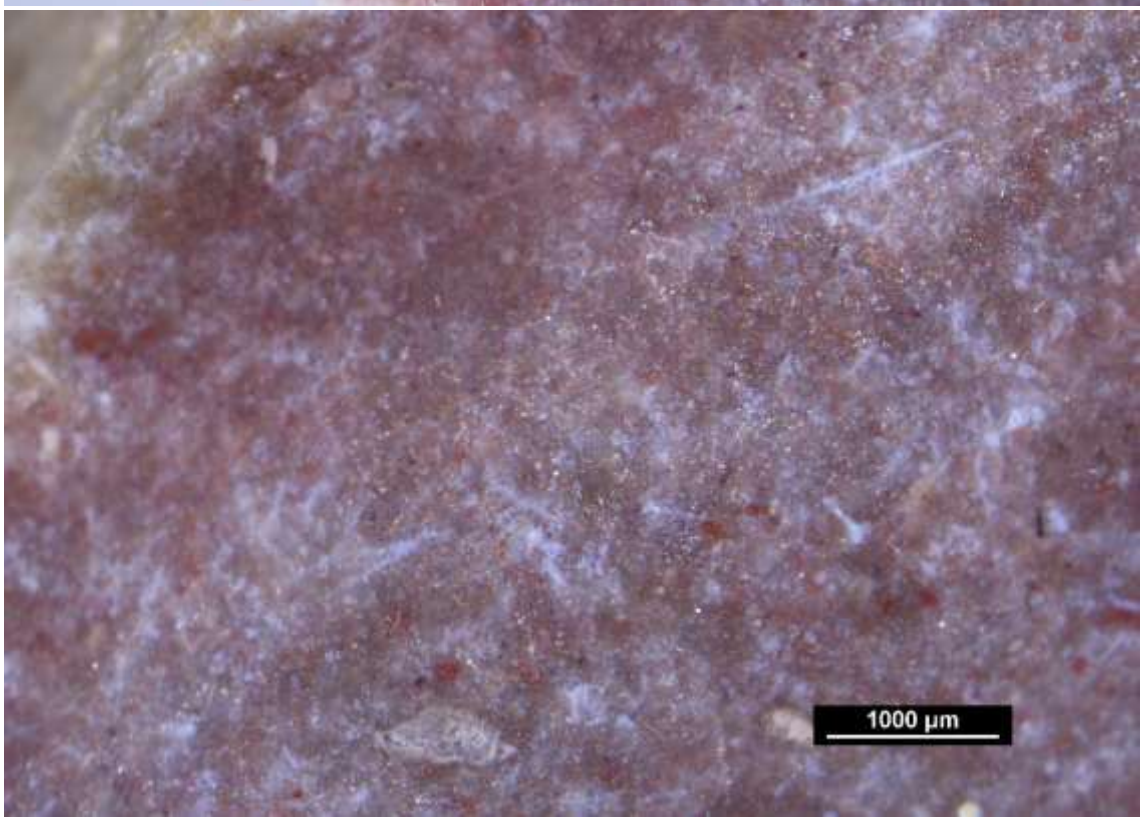
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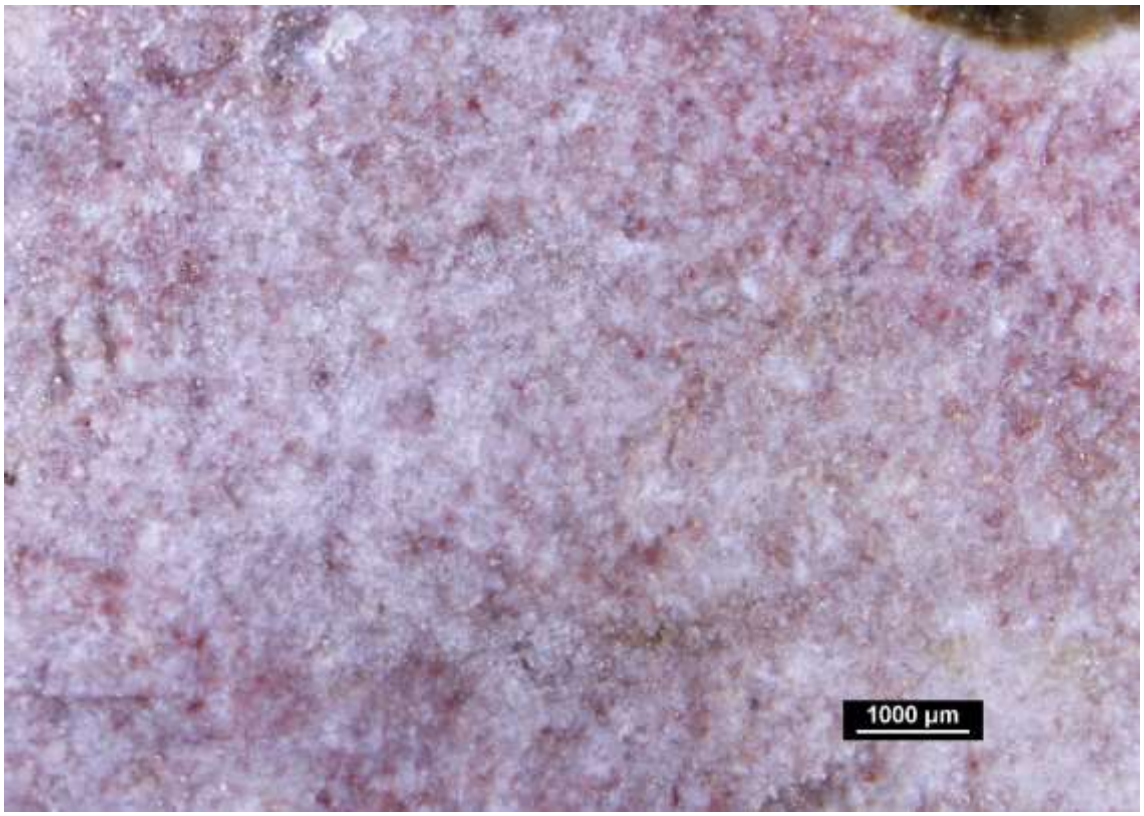
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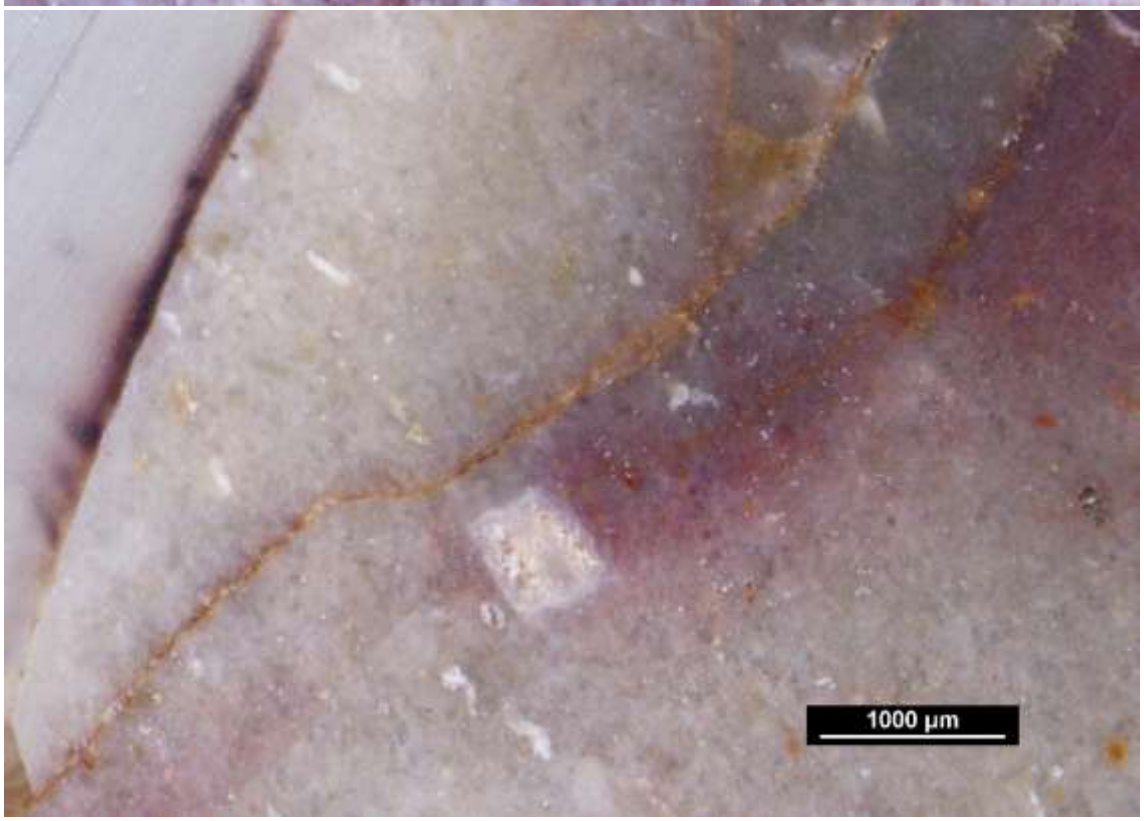
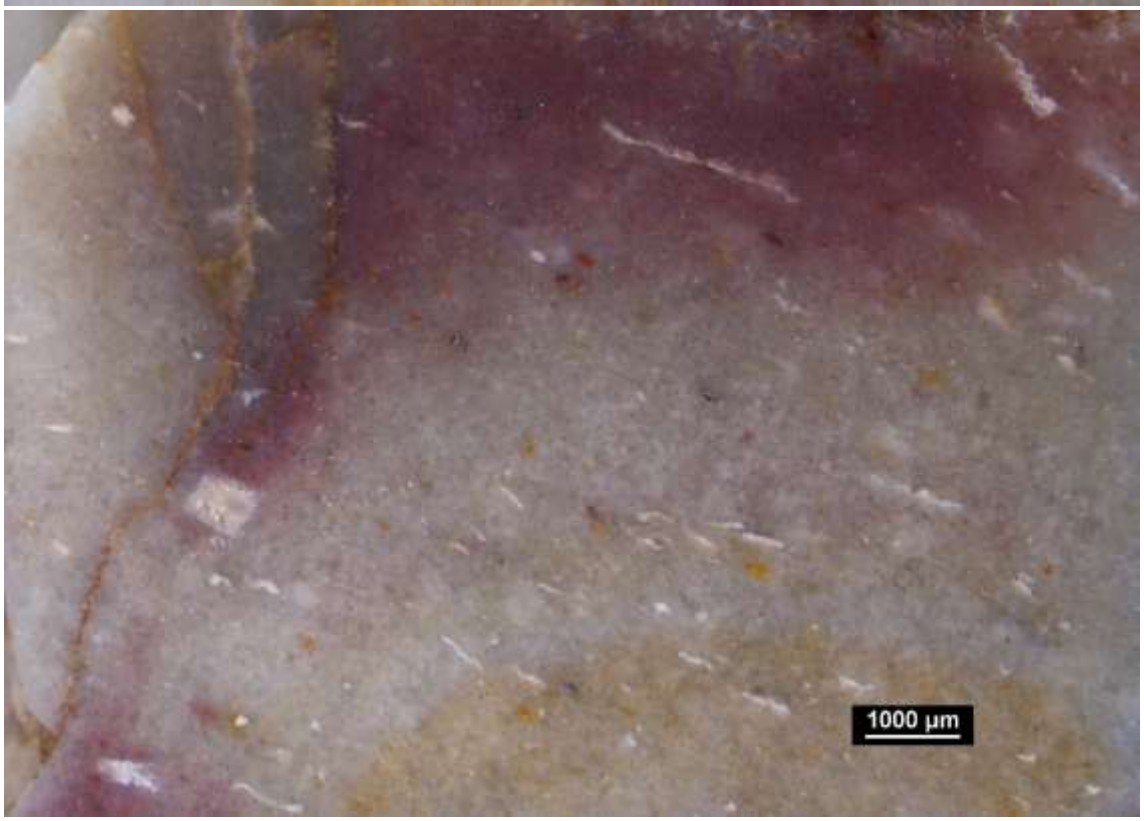

1000 µm


1000 µm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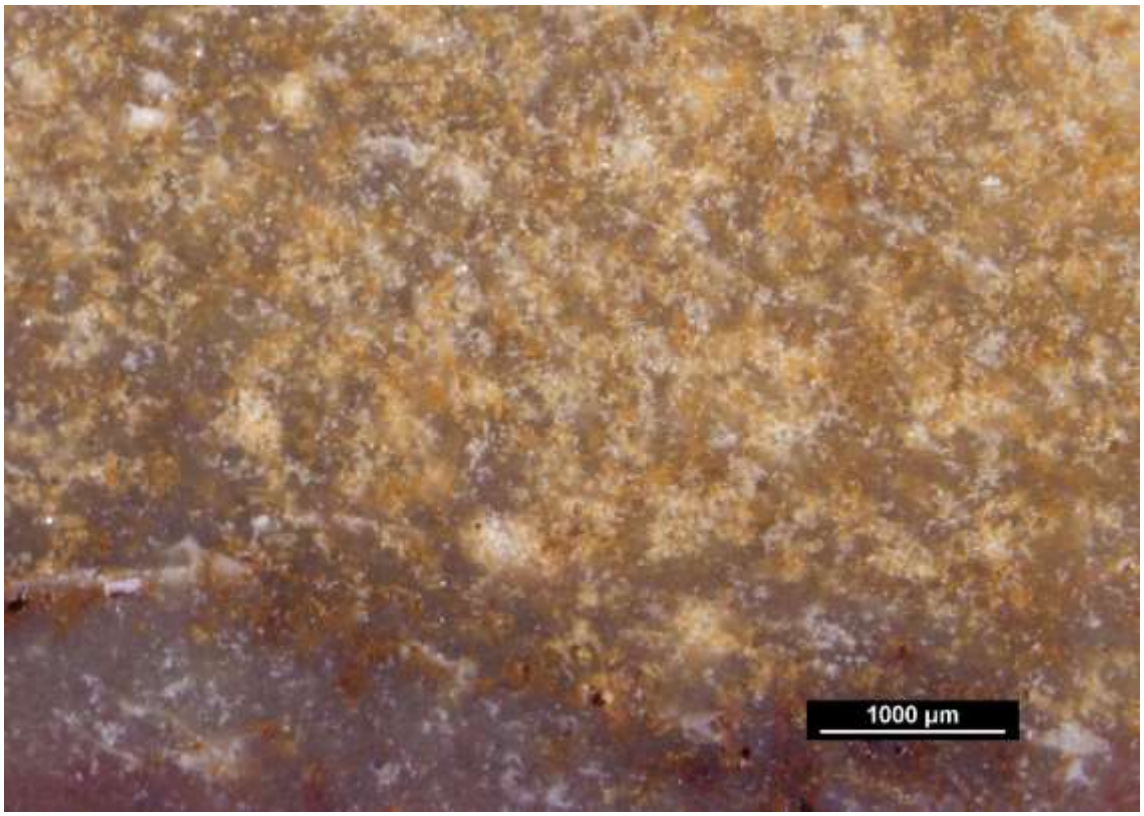
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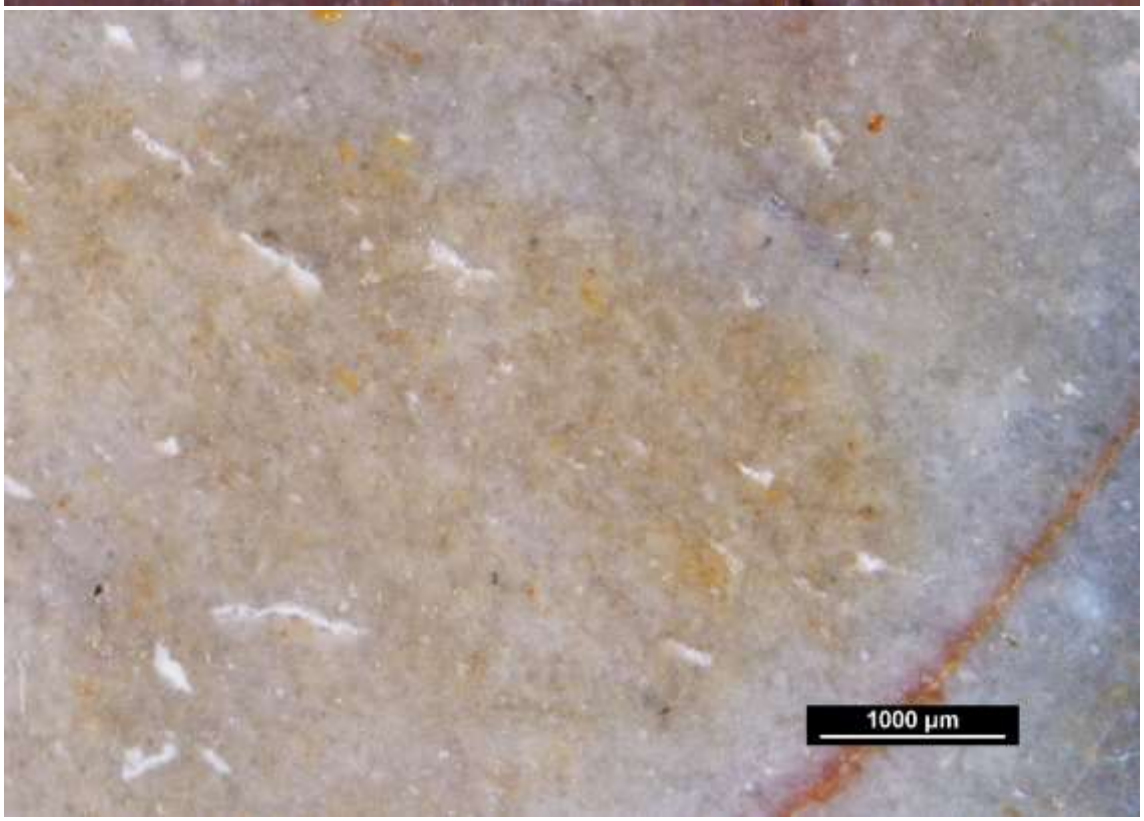
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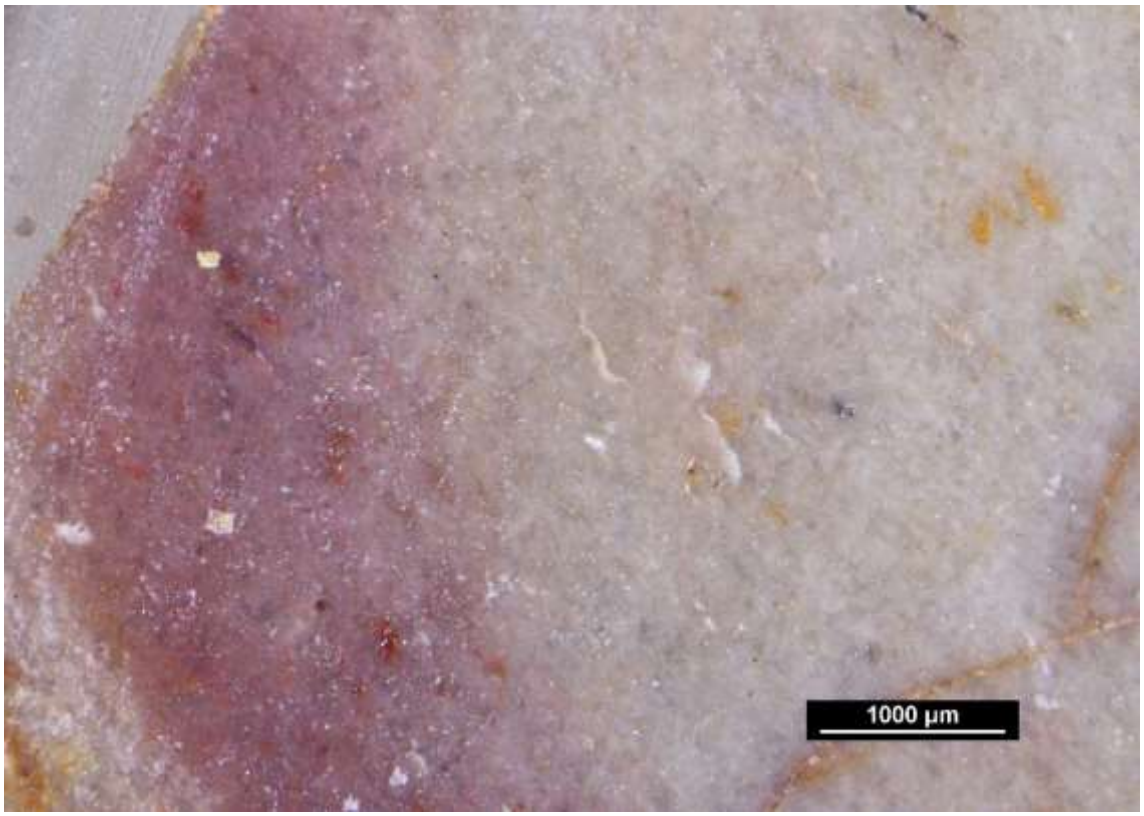
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