Sample ID and provenance

Sample ID: SP55_Cal

Lithology: Chert

Collection: LusoLit

Outcrop: Caliços

Unit/facies: Middle Jurassic

Thinsection: Yes

Macroscopic description

- COLOR

The colors distribution is Mix diffuse. The main colors are light gray (10YR 7/1) and white (10YR 8/1).

- FABRIC

The luster is Dull and the translucency Opaque. The feel is Semi-smooth and the grain is Fine. The structure is Uneven with a Gradual variation. The patterns are Spots (1-49%), which are Splotched and Speckling. The spots distribution is Uneven.

- INCLUSIONS AND FOSSIL CONTENT

Fossils are uncommon and seem to be monotypic, white and oval/circular shaped. Some are irregular.

Some areas seem to have a concentration of chalcedony instead of quartz.

There is the presence of a small, shiny mineral which may be shale.

- CORTEX

The cortex is Outcrop type, Thin and with a Sharp transition. When exposed, it becomes patinated and filled with pits, which gives it a porous and altered appearance. When tested with dilute hydrochloric acid (HCL 10%), the reaction was nonexistent, hinting that the parent rock has no carbonate mineral content. A large inclusion had a Strong reaction, and it may be filled with calcite.

- QUALITY

The fracture is Conchoidal and the surface is Homogeneous with rare Fractures. The knapping quality is Medium.

- OBSERVATION

-

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: Rare

Nodule description: Irregular, around 5cm

- SHORT DESCRIPTION

The chert nodules can be found in small boulders scattered in an abandoned field, possibly previously an agriculture field. Either the site was previously an outcrop now completely dismantled, or the boulders have been displaced. The chert nodules are rare and small.

Petrography analysis form

❖ TEXTURAL COMPOSITION

Texture: Mudstone

Microstructure: Massive

❖ COMPOSITION

ORTHOCHEM	Type	%	Description
MiC quartz (gr)	SE	99	-
Chalcedony (fb)	SE	<1	Replacing fossils.
MG quartz (gr)	-	<1	Scattered grains in the sample.

ALLOCHEM	Freq	Description
Oxide grains	Very frequent	-
Oxide patina	Uncommon	Concentrated in the areas at the edge of the sample, around porosity.

BIOCLASTS	Freq	Description
Unidentifiable fossils (ghosts)	Common	The fossils are poorly preserved, without shape or structure and replaced by chalcedony.

Unidentifiable fossils (round)	Common	50% of the fossils are round, with a larger freq. in comparison to the spicule-like fossils.

- OTHER TEXTURAL CHARACTERISTICS

Total porosity (%): 5

Porosity type: Vuggy

Other sedimentary structures: -

Observations

- There are areas in the sample which are darker. This may be due to oxide patina or a concentration of organics.
- The sample may have some dolomite grains. Need to check.
- There is the rare presence of small grains of orange/yellow coloration. The mineral is unknown.

Analysis information

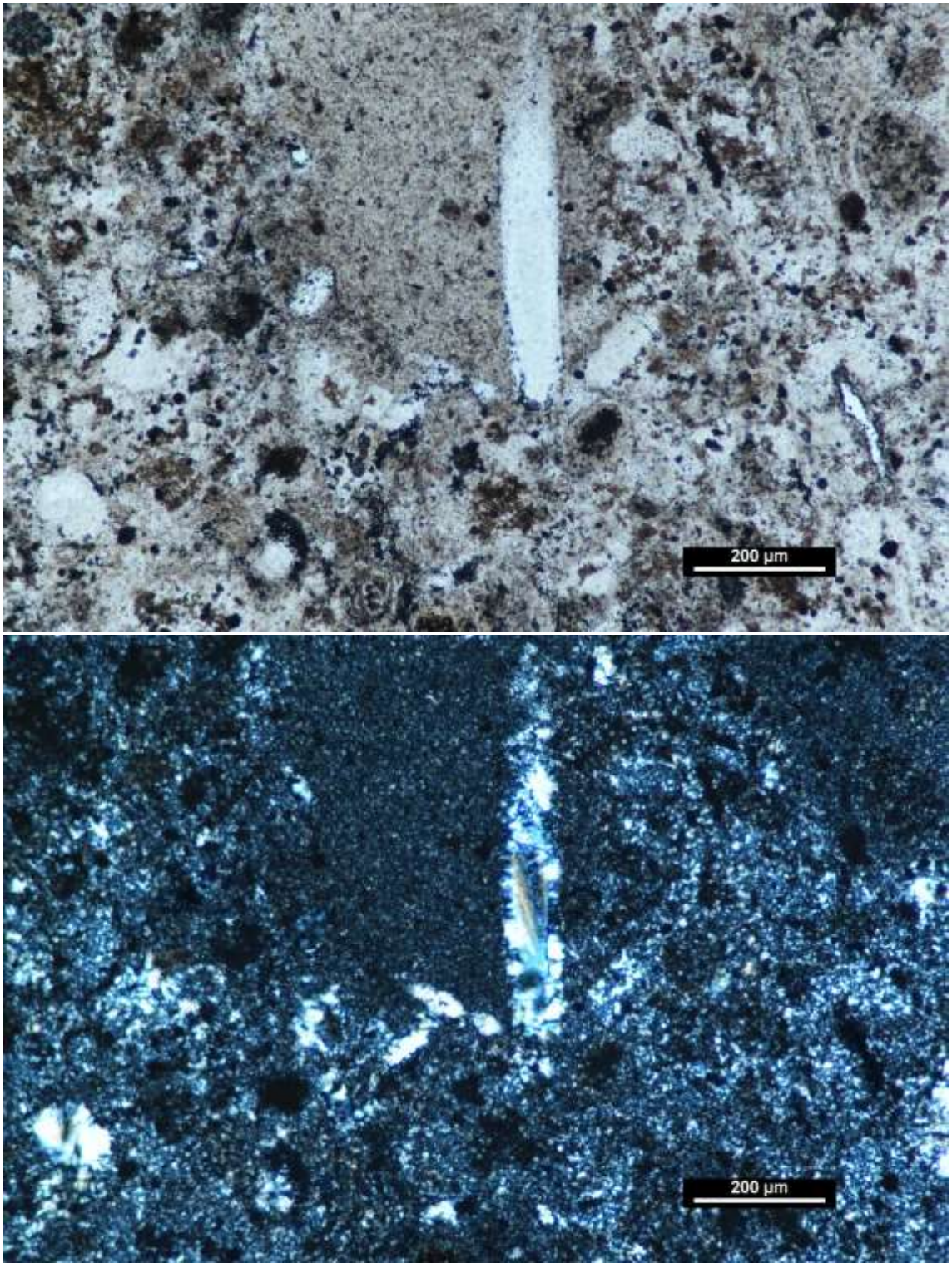
- ANALYST: JB
- DATE: 06.24.2022
- EQUIPMENT: Nikon DS-Ri2

Photos

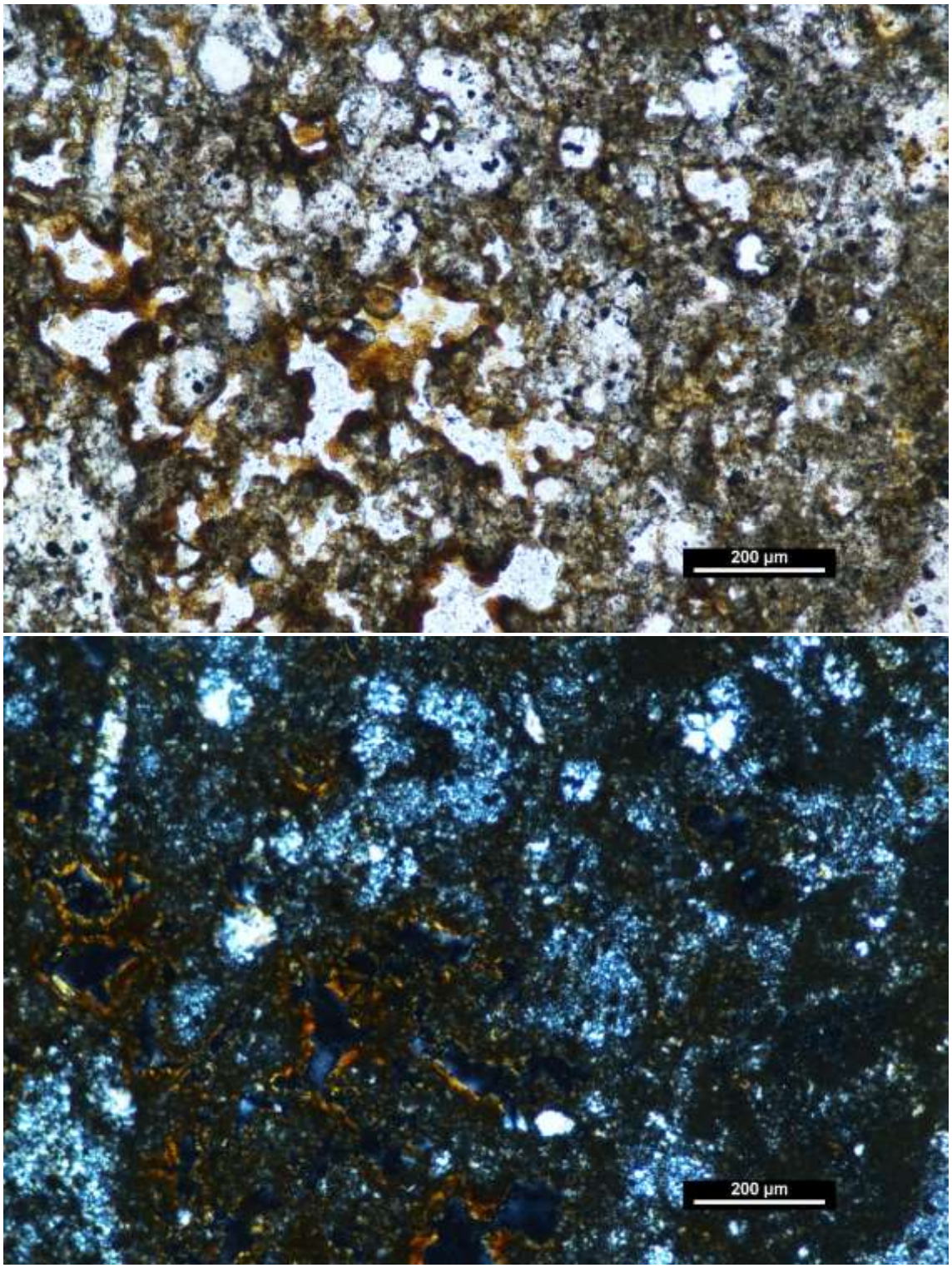
Photo ID	Aug.	Description
SP55_001	10x	-
SP55_002	10x	Detailed view of microcrystalline quartz and porosity, surrounded by concentrations of oxide patina. Fossils are unidentifiable and replaced by chalcedony or quartz.
SP55_003	10x	Detailed view of microcrystalline quartz and porosity, surrounded by concentrations of

		oxide patina. Fossils are unidentifiable and replaced by chalcedony or quartz.
SP55_004	10x	View of the darker areas in the chert, which are spatially restricted and small. Oxide grains are also present.
SP55_005	4x	Detail of a long, unidentifiable fossil replaced by chalcedony. Circular ghost fossils are also present.
SP55_006	4x	Concentration of circular and oval fossil ghosts, replaced by chalcedony. Larger oval ghosts can only be seen in plane polarized light.

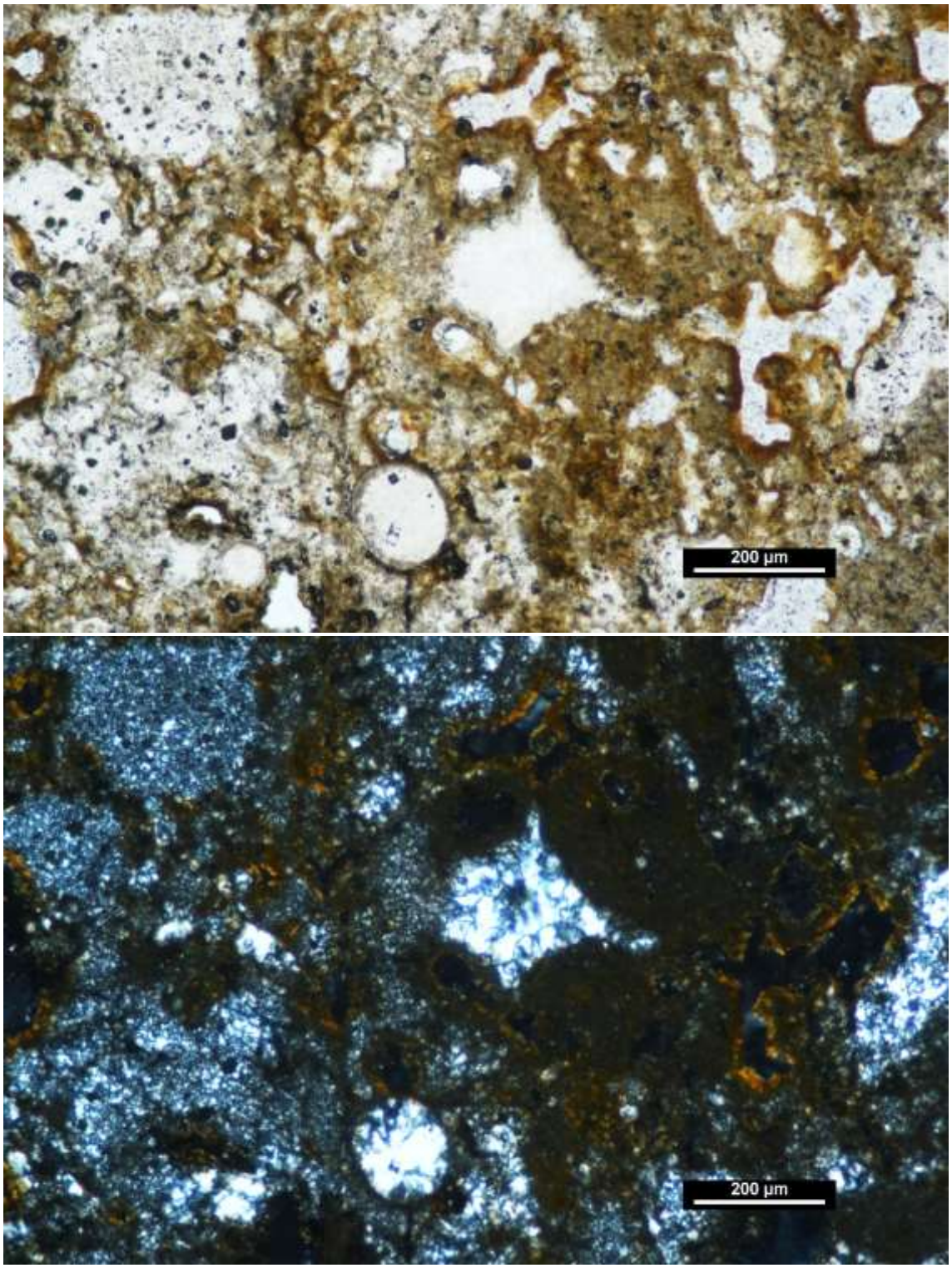
Petrography photos



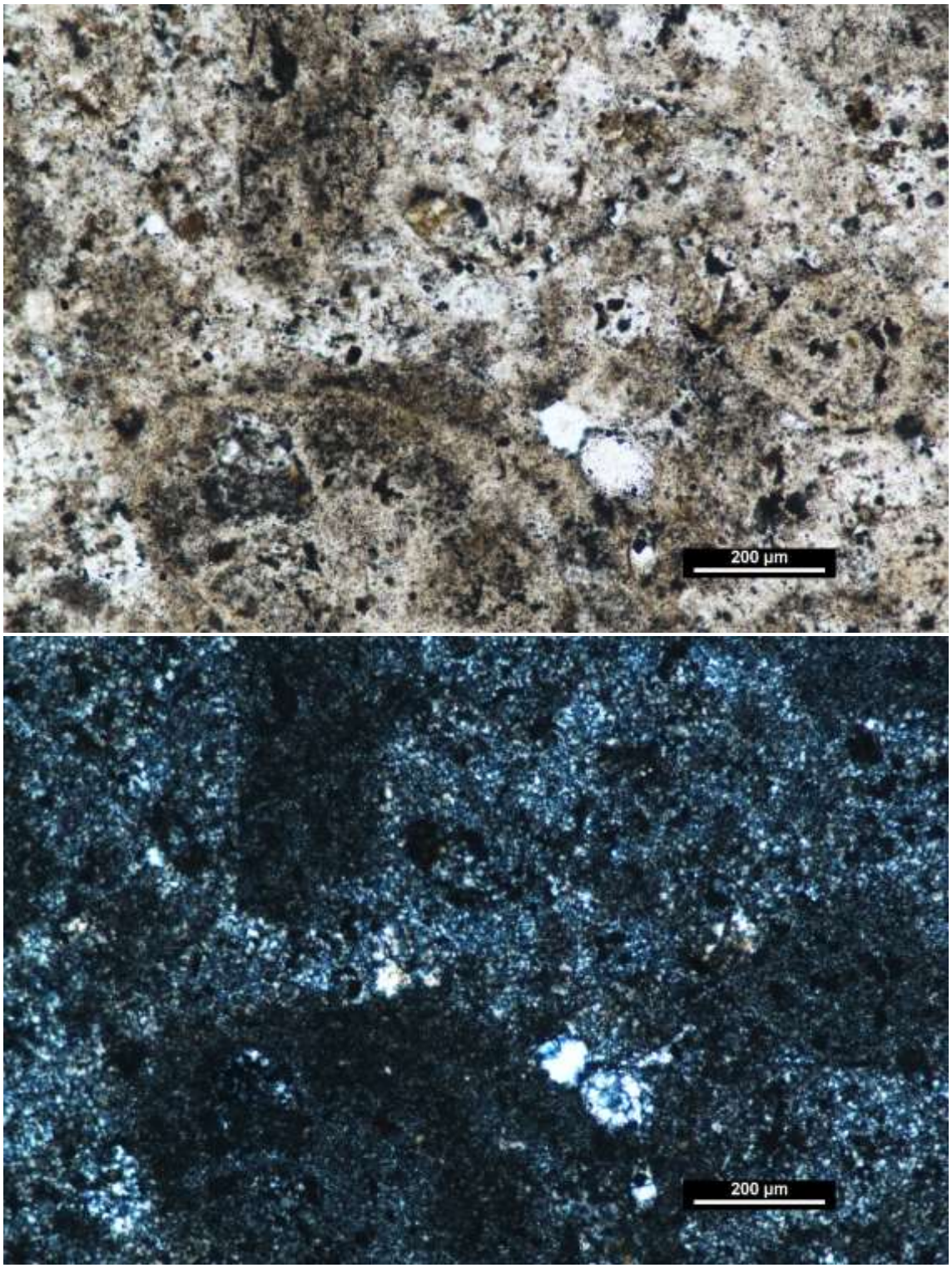
SP55_Cal_001 (PPL and XPL)



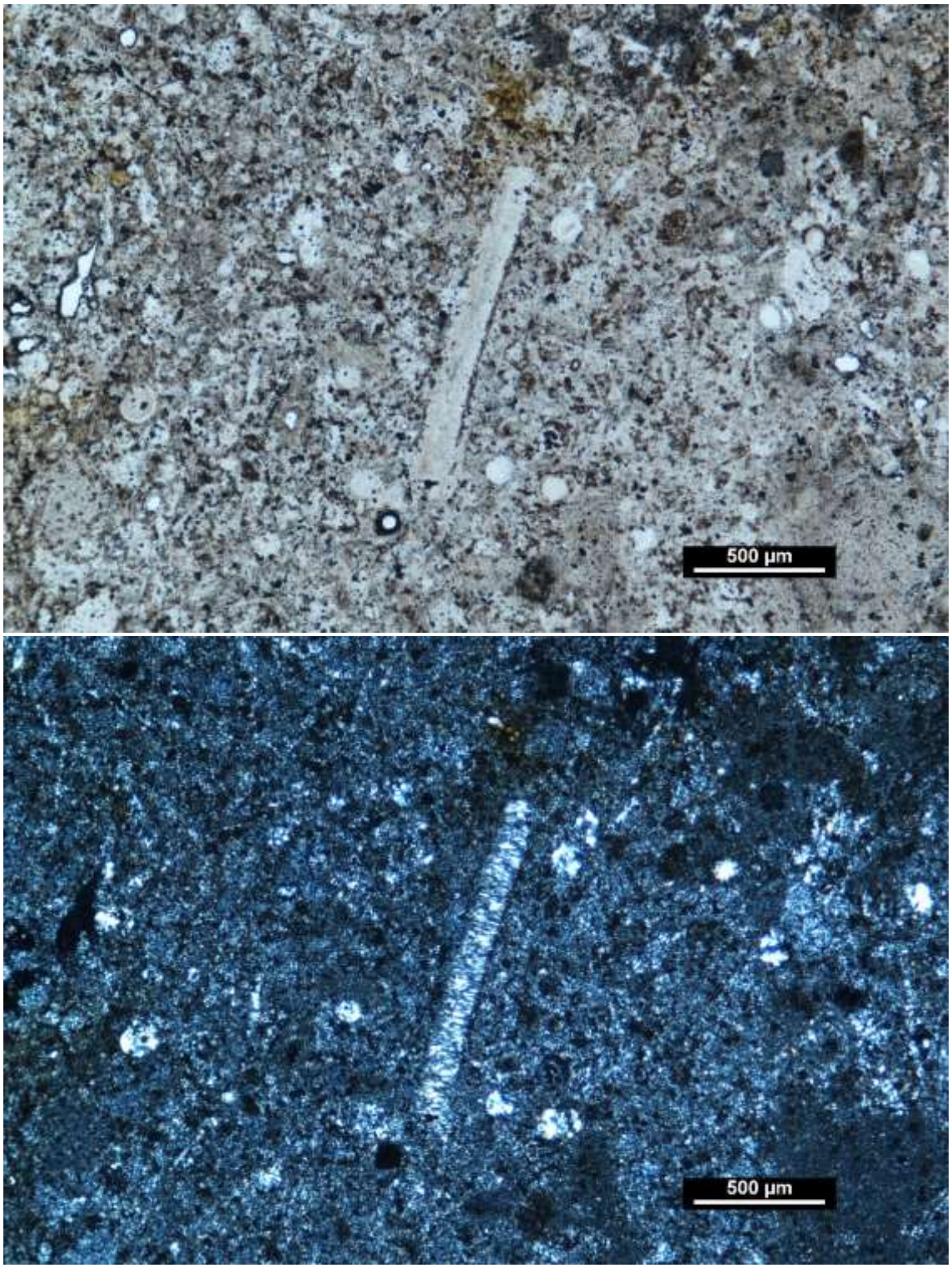
SP55_Cal_002 (PPL and XPL)



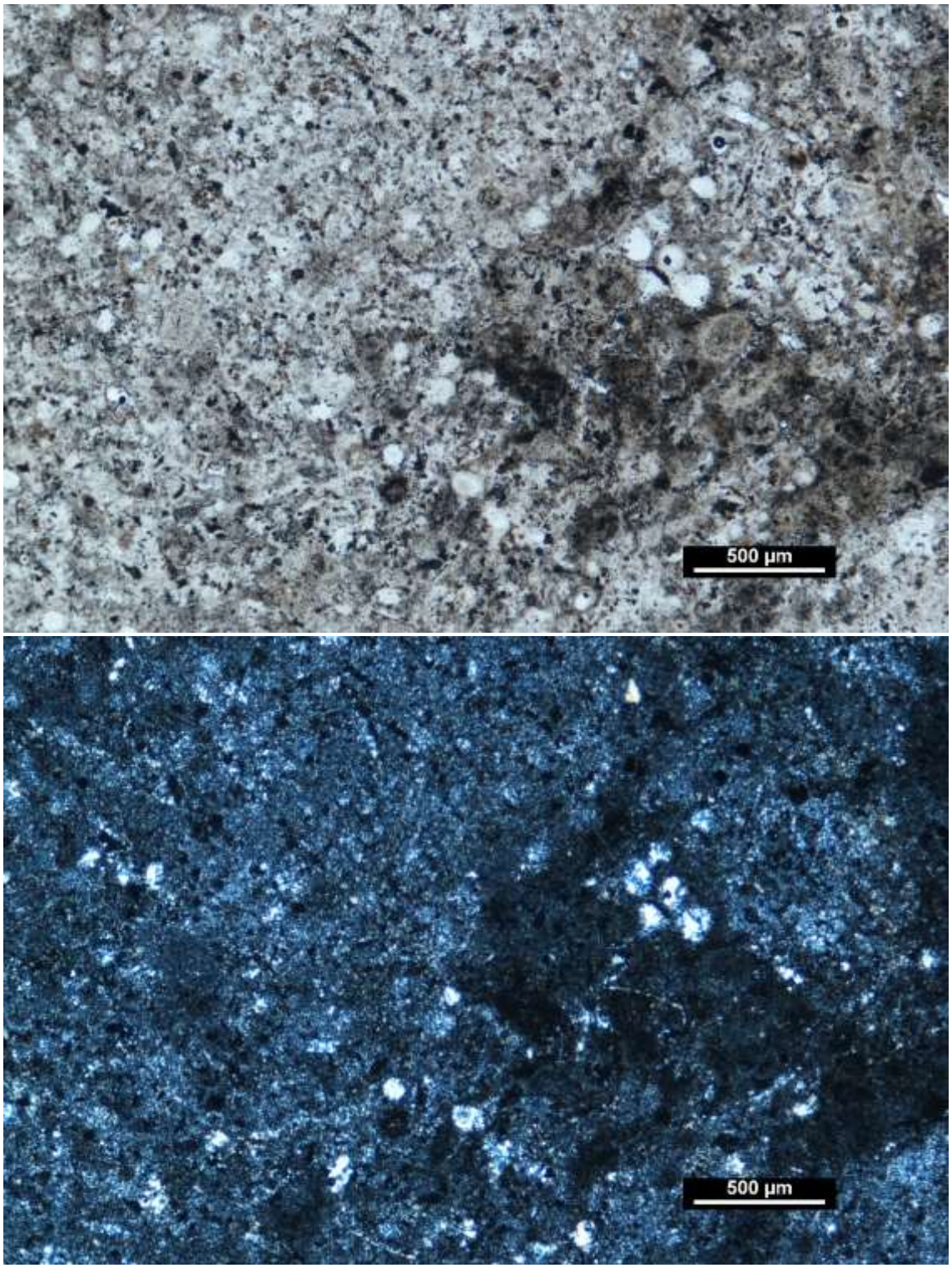
SP55_Cal_003 (PPL and XPL)



SP55_Cal_004 (PPL and XPL)

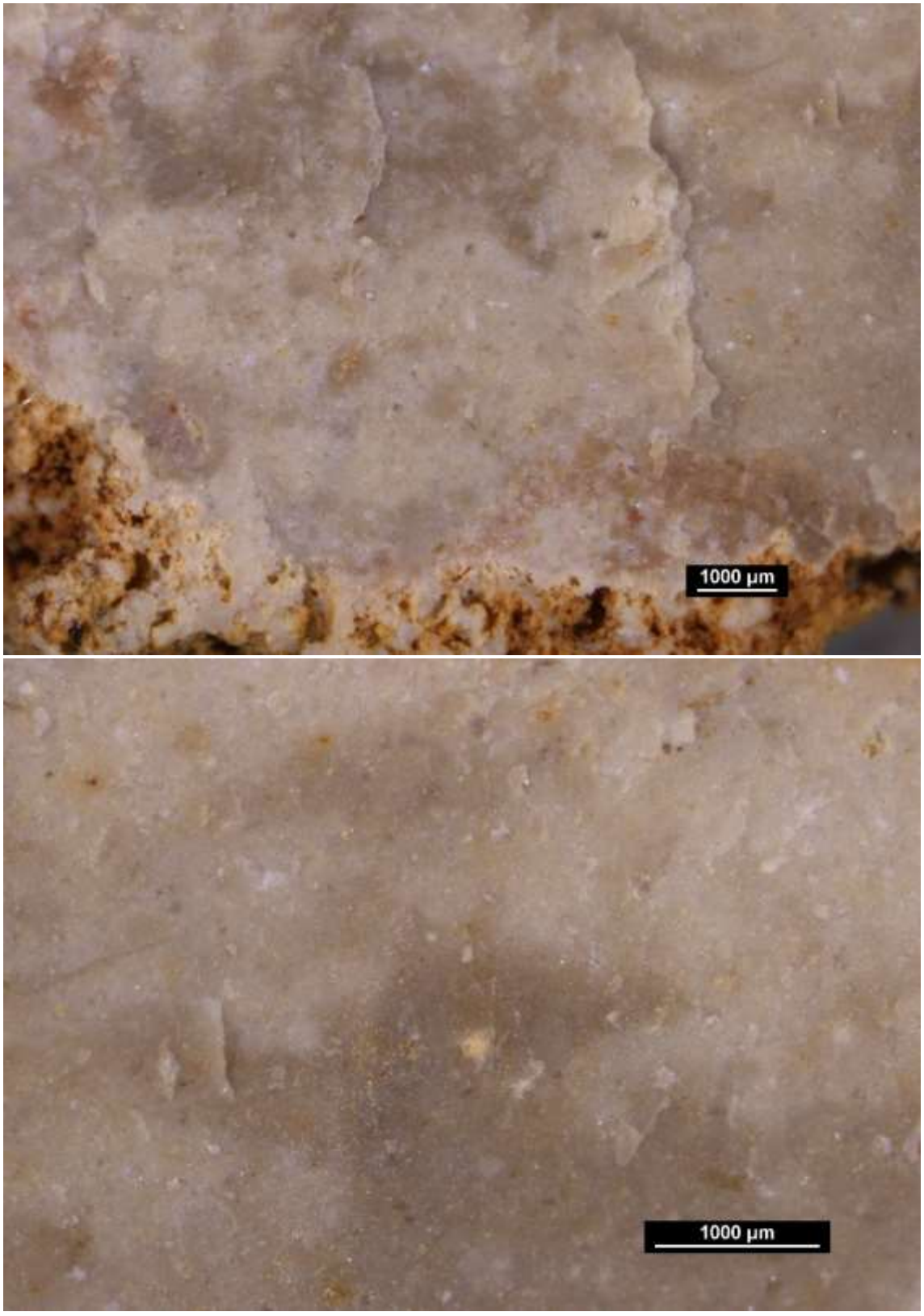


SP55_Cal_005 (PPL and XPL)

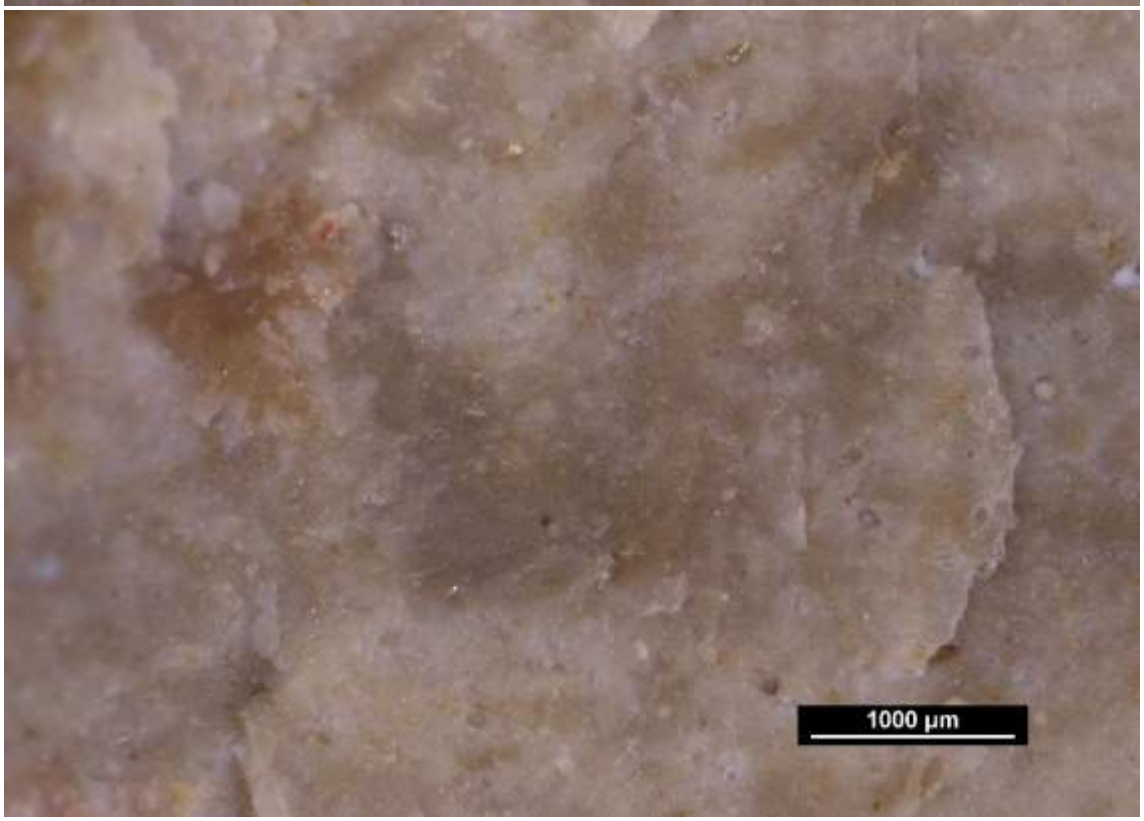


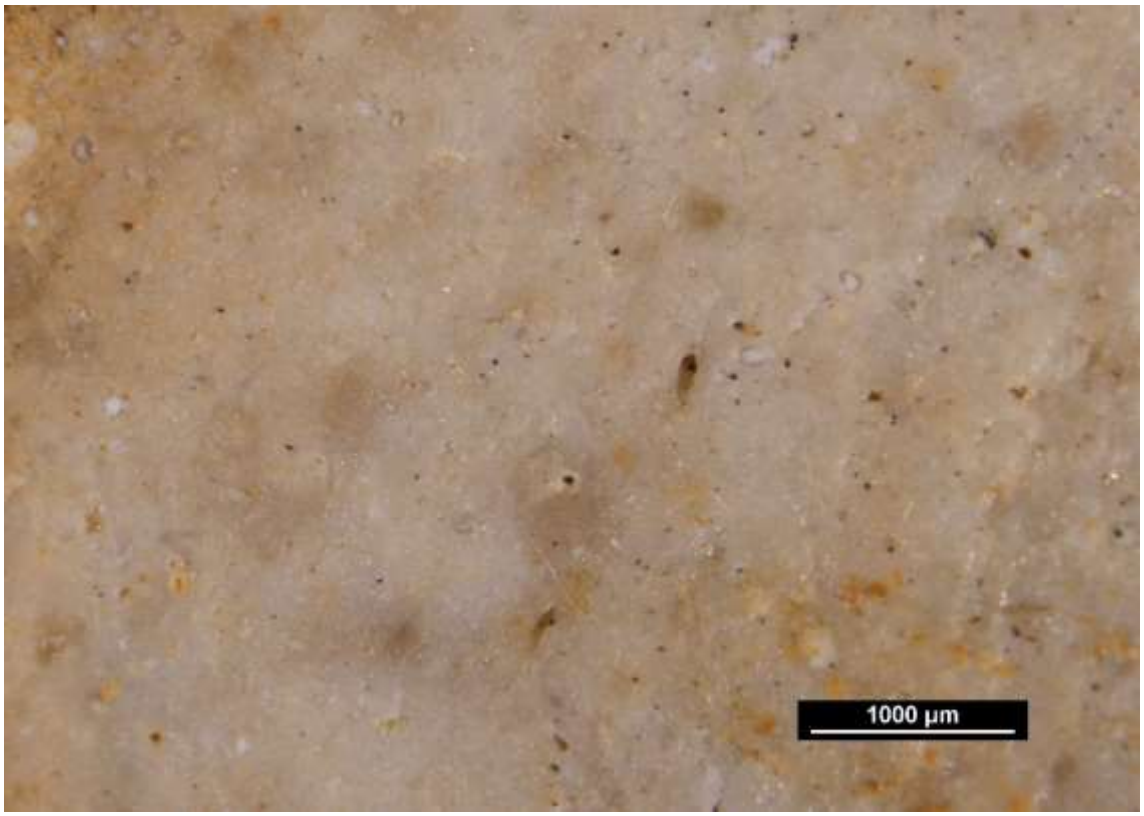
SP55_Cal_006 (PPL and XPL)

Macroscopic photos

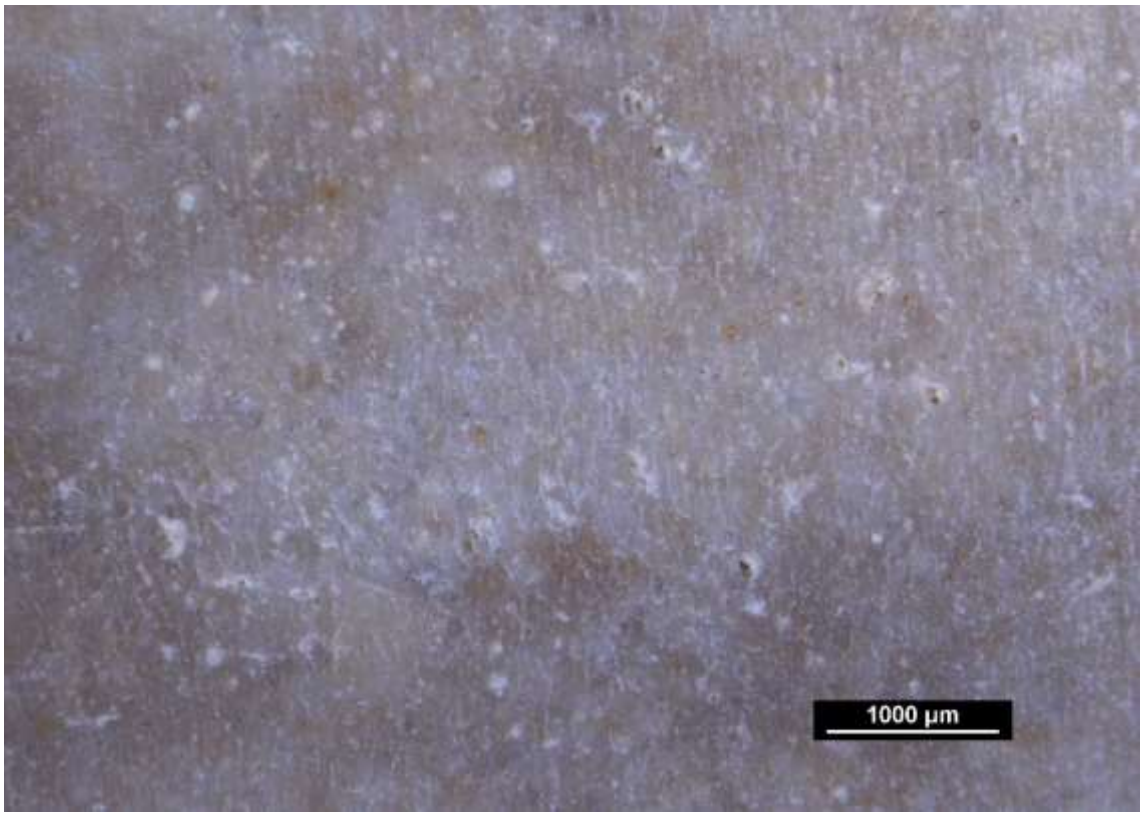


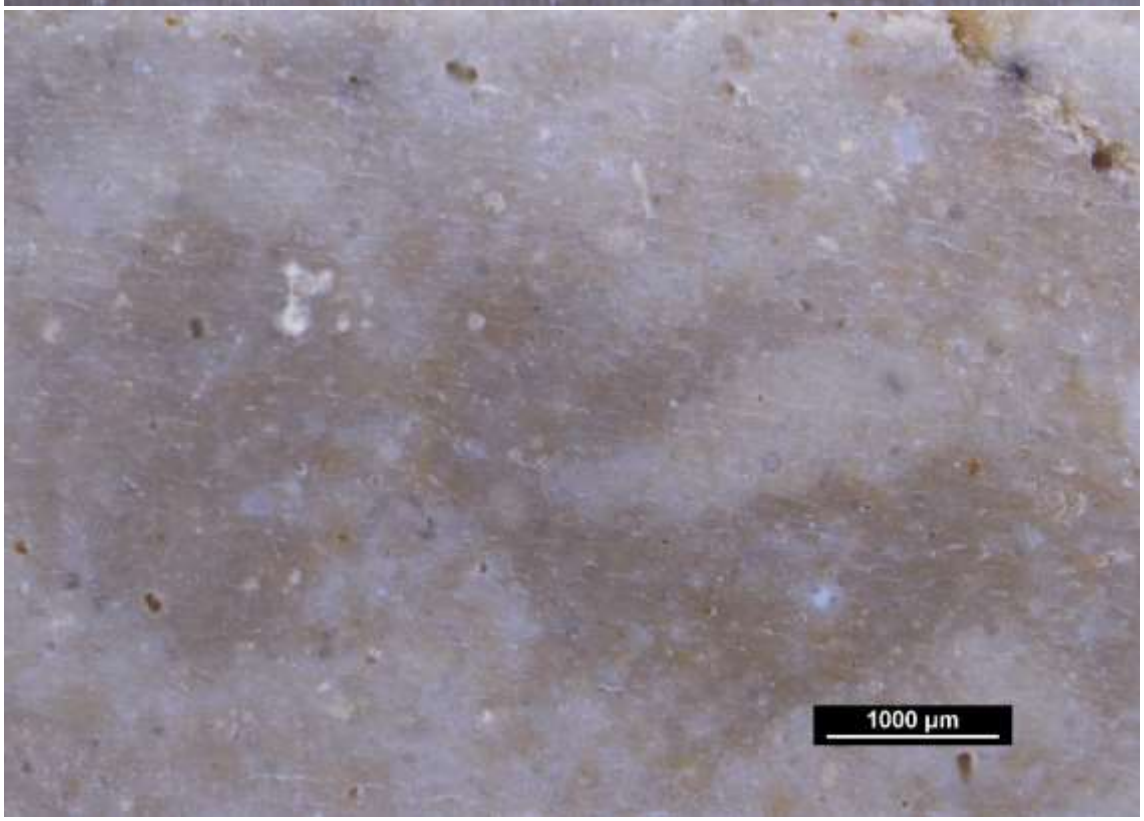

1000 µm

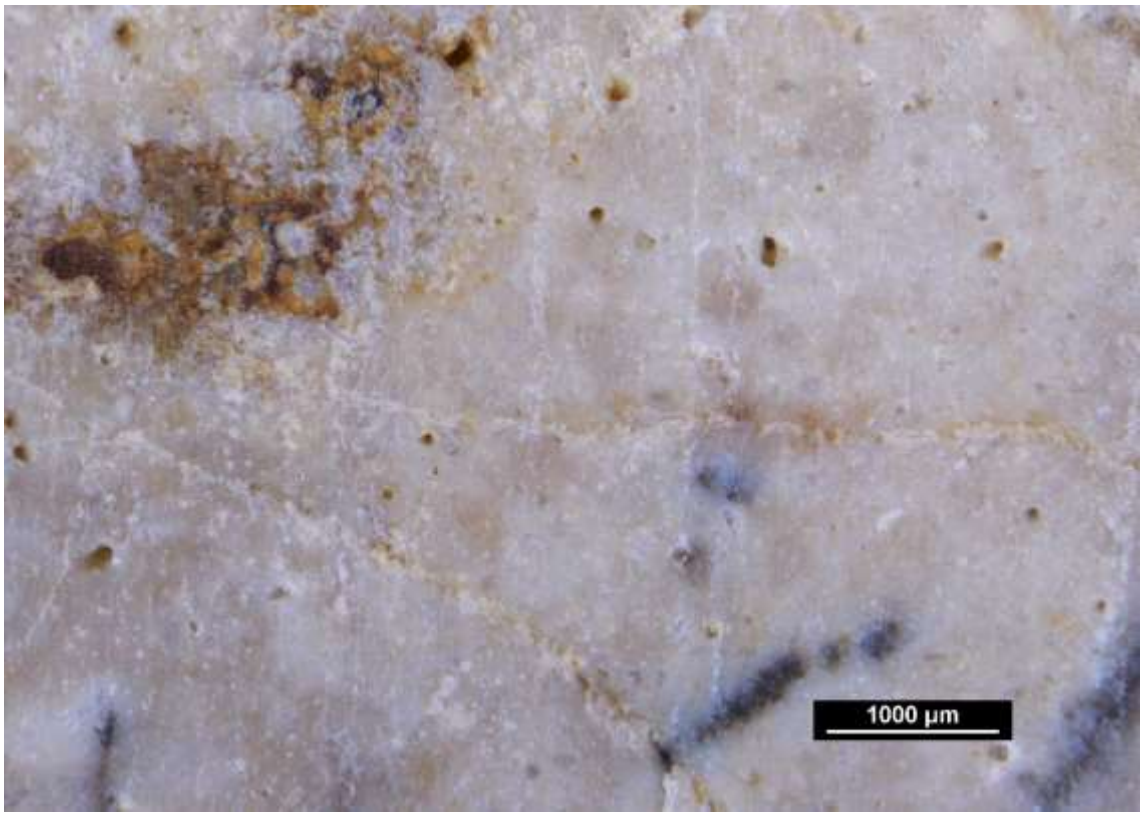

1000 µm


1000 µm


5000 µm


1000 µm


1000 µm


1000 µm


5 cm