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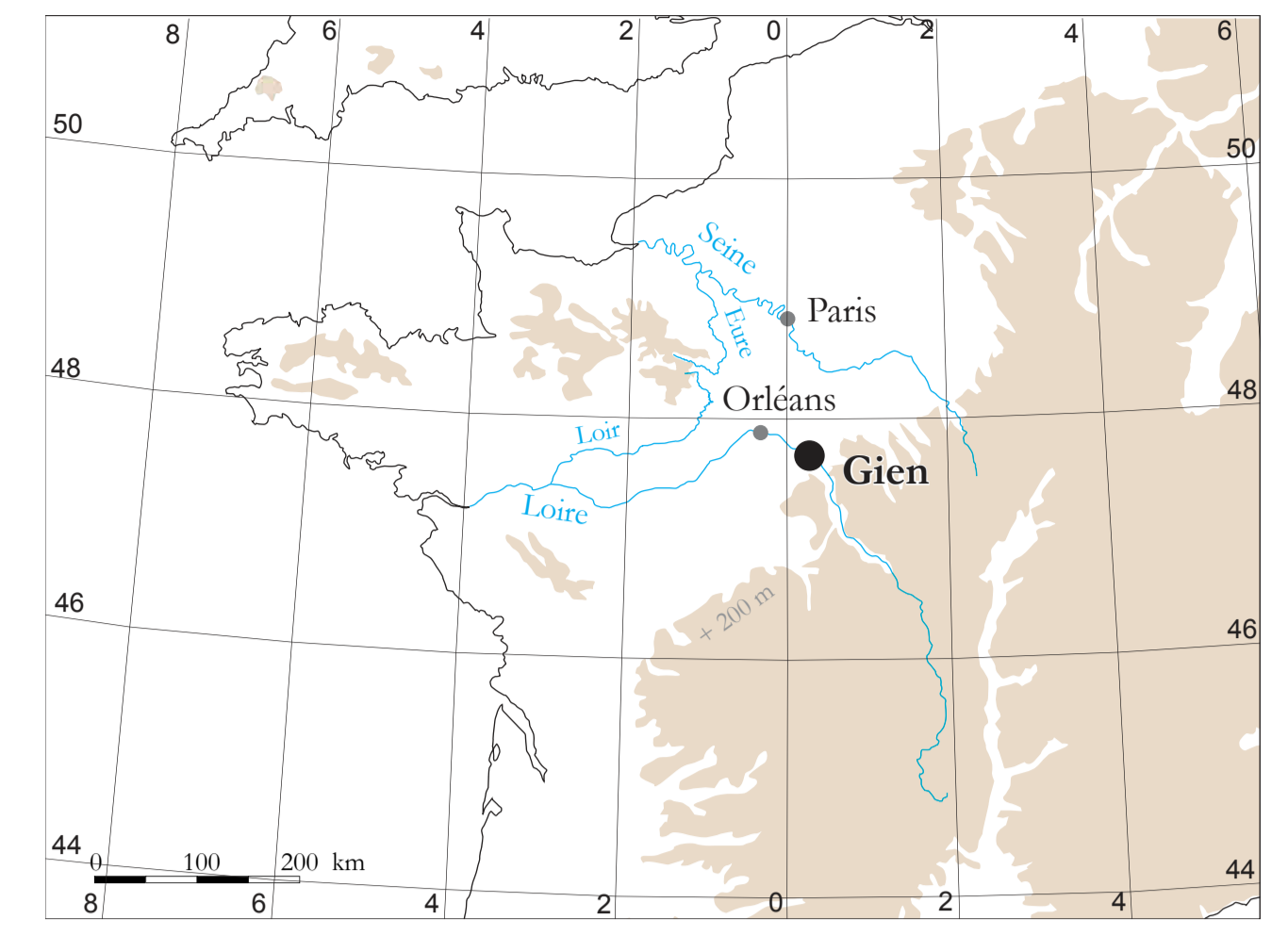


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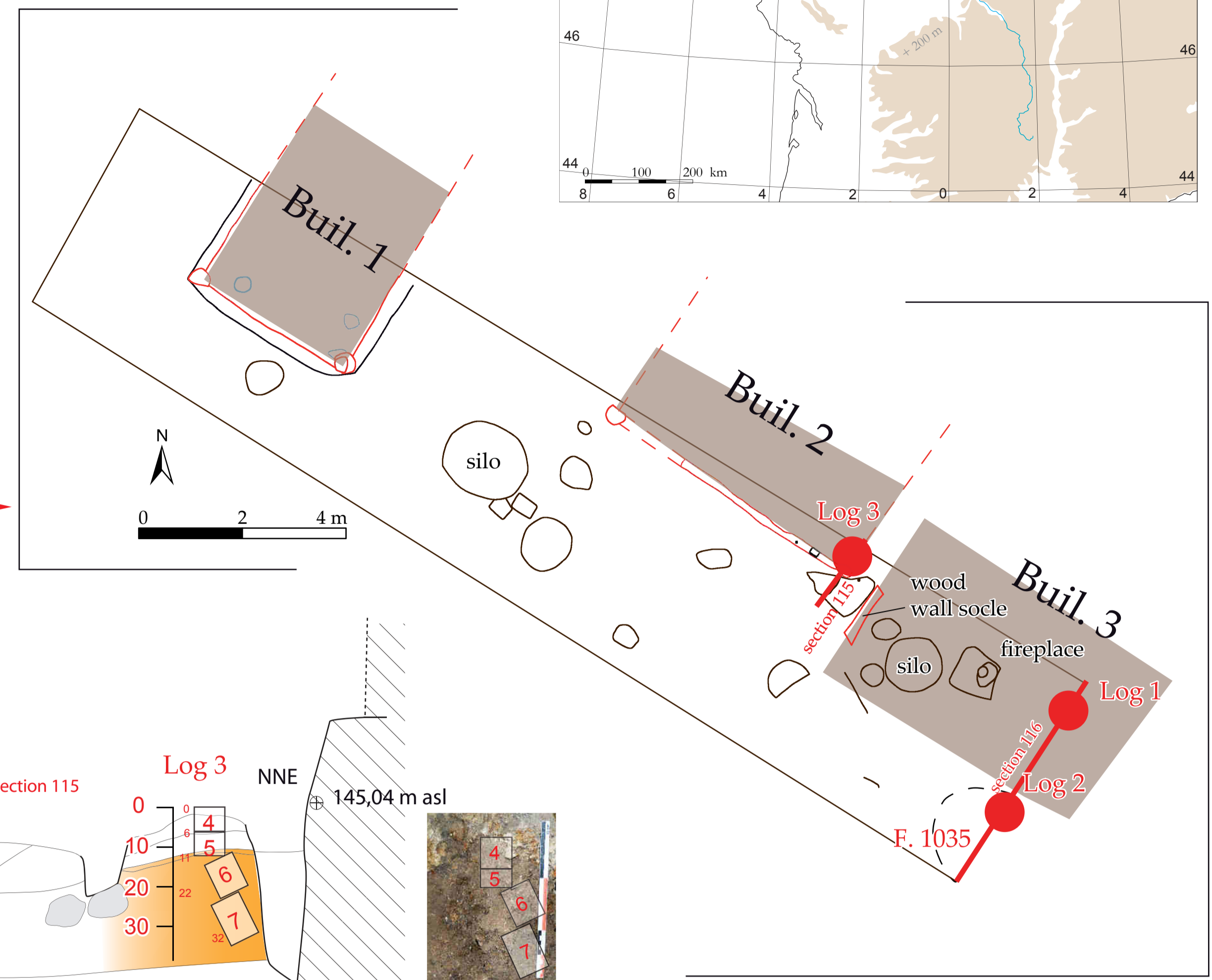
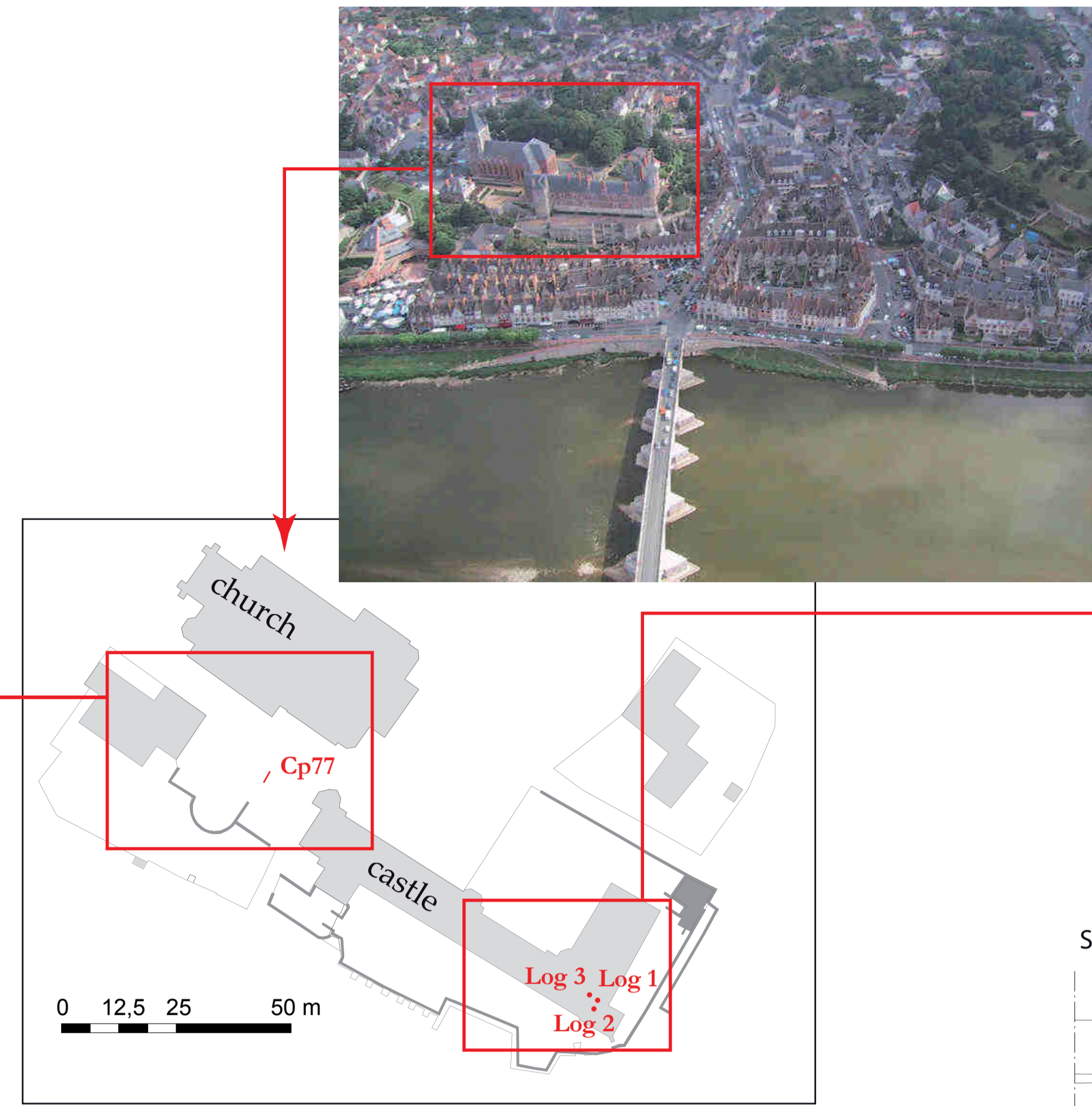
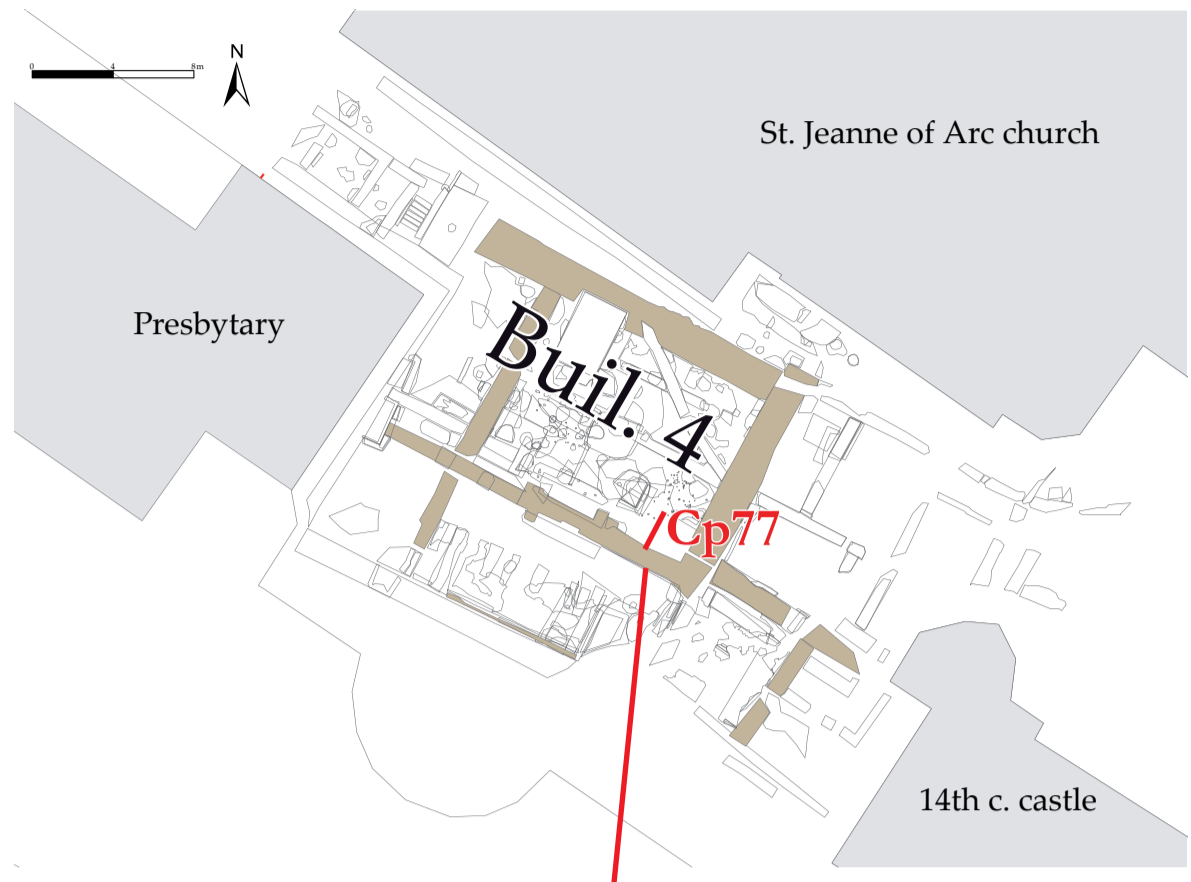
Indoor floors from Gien (8th - 10th c.)

building materials, use of space and formation processes

Quentin Borderie^{1,2}, Mélinda Bizri³
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 2: CNRS - UMR 7041 - ARSCAN "Archéologies Environnementales"
 3: CNRS - UMR 6298 - ARTEHIS



Beneath the 14th c. castle...



... Early Middle Ages buildings.

Strata of more than 1 m thick
 Protected by clay backfills
 Wooden architecture (Buil. 1 to 3)
 Limestone architecture (Buil. 4)

Archaeological interpretation:
 - high status occupations: early castrum?
 - domestic houses and/or crafting areas

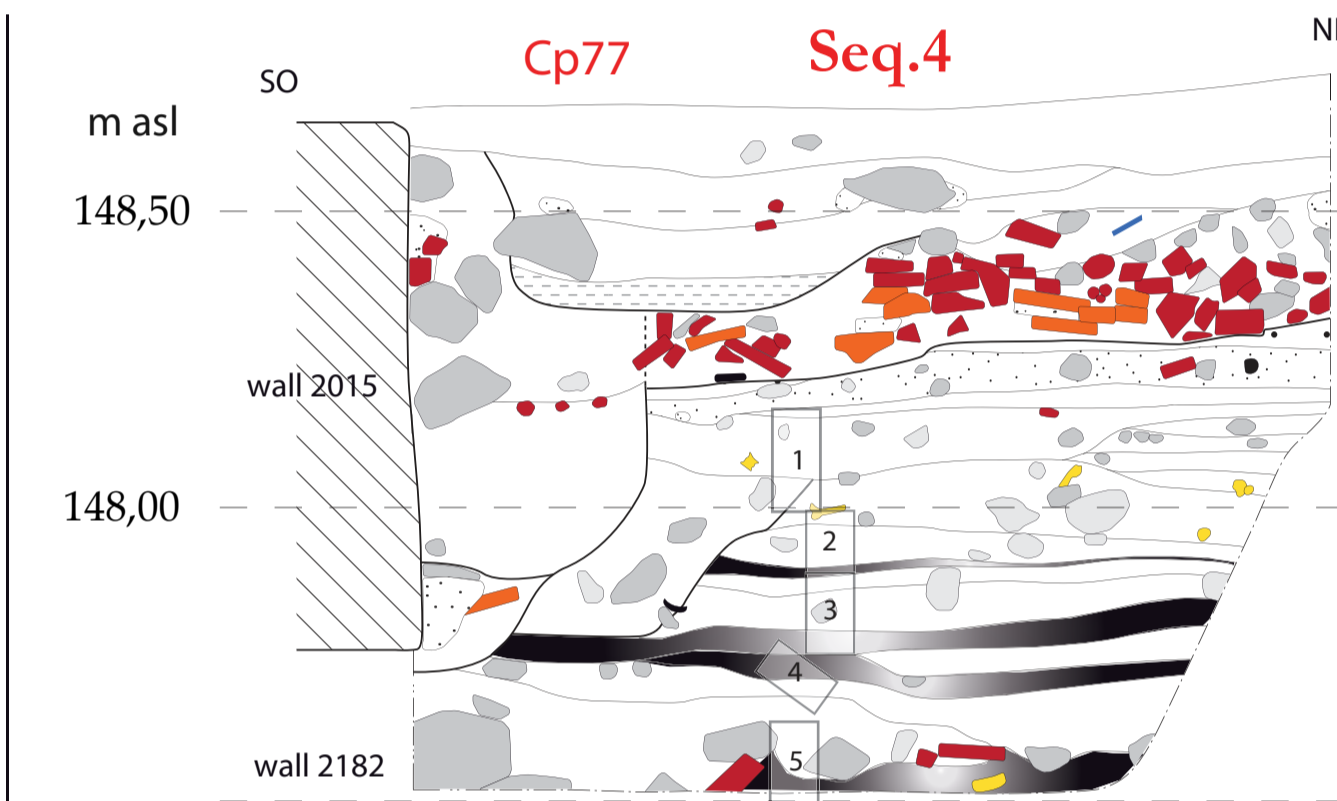
Very good preservation
 Low degradation of OM
 No bioturbation

Only compaction & subsidence of layers
Trampled floors

Investigations

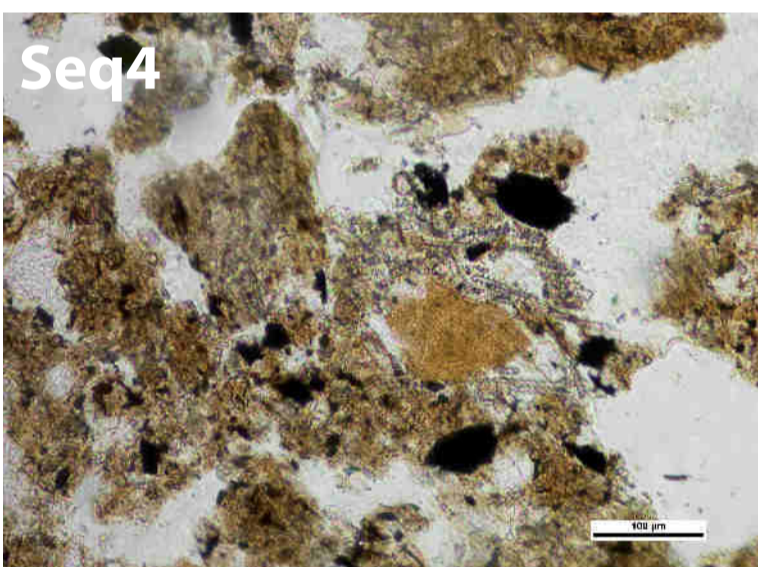
4 logs : log1, log2, log3 and Cp77
 20 thin sections 140x86 mm
 114 micro-stratigraphic contexts (μcontexts)

Phytoliths analysis of log3
 Chemical analysis of Cp77



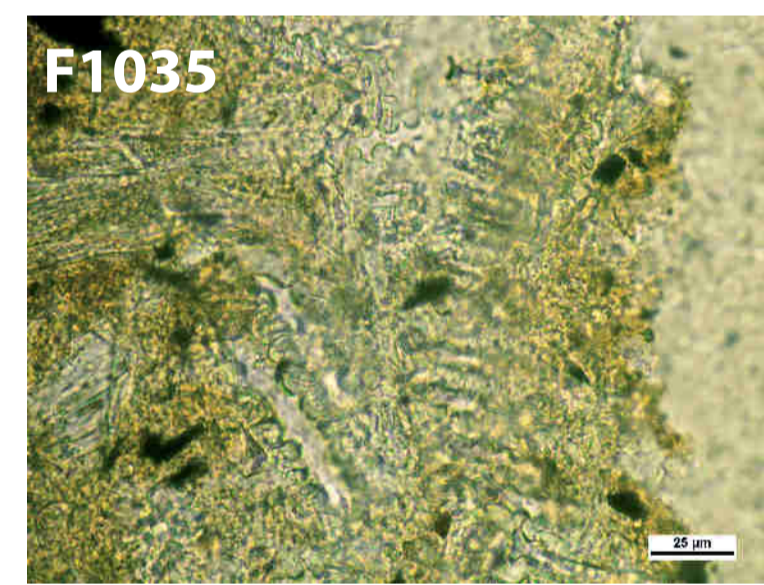
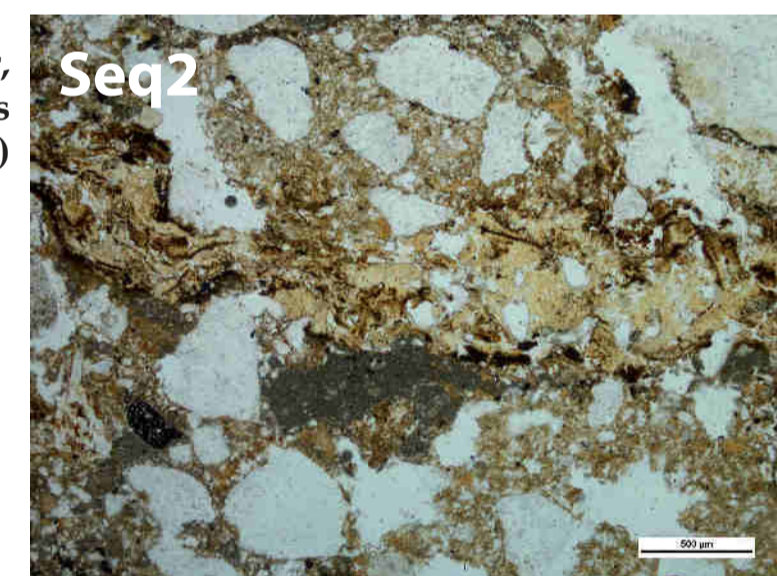
Sequence 4

Thick floors
 - Only mineral building materials
 - Refuses:
 - fireplace (11 μcontexts)
 - mixed (3 μcontexts)
 More fireplace refuses in top layers

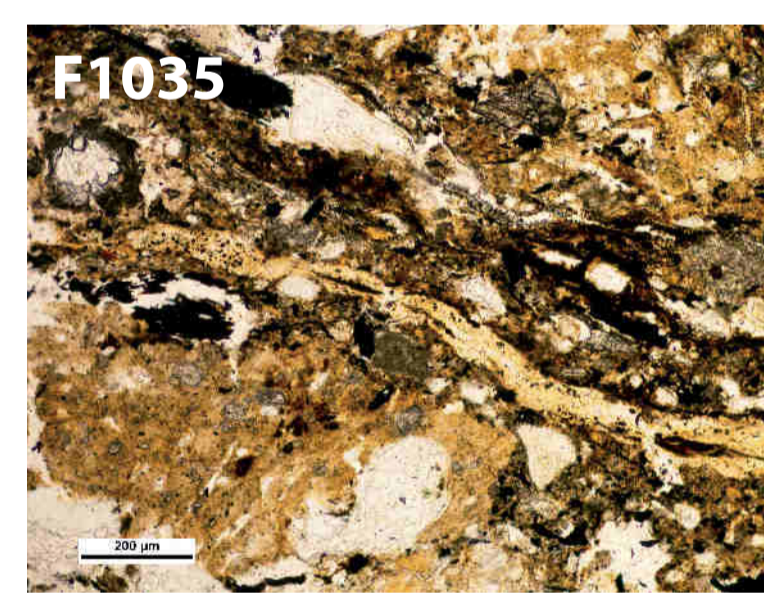


Ashes, phytoliths (PPL)

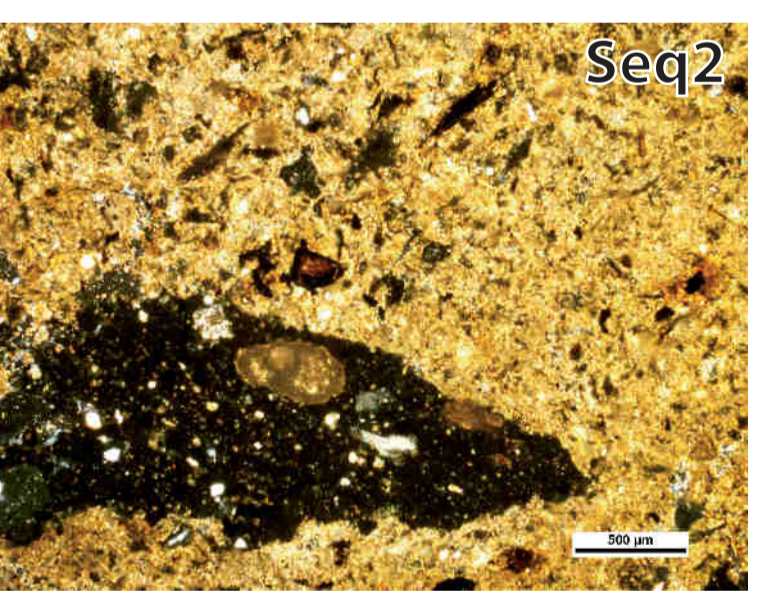
Mineral buil.mat., ashy layer, P-layer, phytoliths and plant remains (PPL)



Dendritic phytoliths (PPL)



Reworked fragment of floor (PPL)



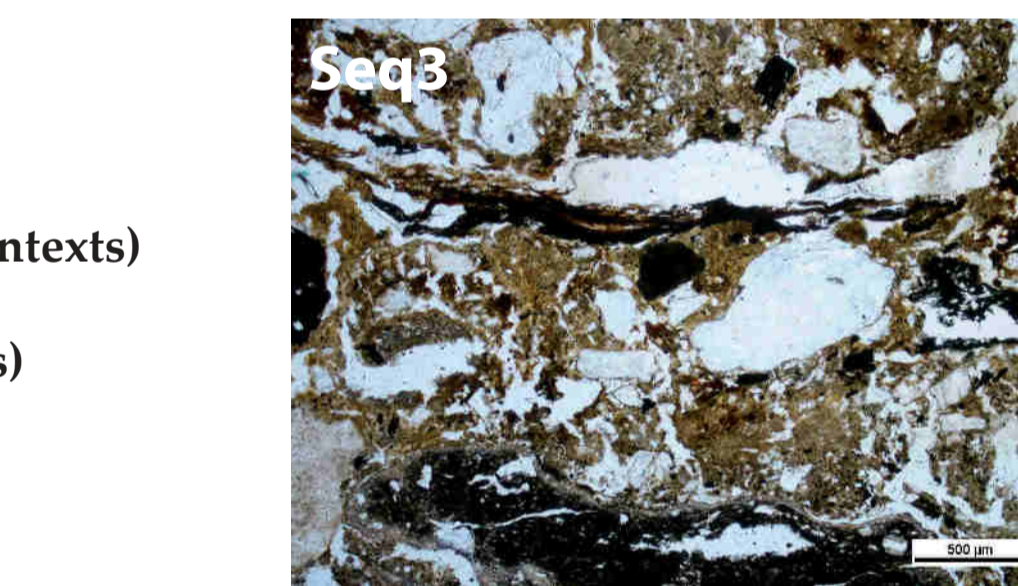
Ashes with melted silica (XPL)

4 occupation sequences (Seq1, Seq2, Seq3, Seq4) 1 pit infill (F.1035)

Sequence	Section	Type of layers	Building materials (nb μcontext)		Refuse layers
			plant	mineral	
Seq1	116	Succession of indoor floors	9	-	12
Seq2			11	14	13
F. 1035			9	10	13
Seq3	115	Pit infill	Reworked fragments		11
Seq4	Cp77	Succession of indoor floors	5	7	9
			-	9	16

Sequence 3

Floors of irregular thickness (partially reworked: Dark Earth):
 - Plant & mineral building materials
 - Mixed refuses
 - Fireplace refuses (1 μcontexts)



Reworked frag. of floor (PPL)

Pit F.1035

Only refuses:
 Lower part:
 - ashy layers
 - reworked floor fragments
 - building mat.
 - domestic refuses (cooking, faeces)
 Upper part:
 - ashy layers
 - building mat.
 - domestic refuses (cooking, faeces)

Sequence 1

Floors 5 - 10 mm thick:
 - Only plant building materials (graminae phytoliths)
 - Refuses:
 - cooking and faeces (5 μcontexts)
 - fireplace (2 μcontexts)
 - building mat. (2 μcontexts)

Sequence 2

Floors 9 mm thick:
 - Plant & mineral building materials
 - Refuses:
 Northern part:
 - cooking and faeces (11 μcontexts)
 - fireplace (2 μcontexts)
 Southern part:
 - cooking and faeces (7 μcontexts)
 - fireplace (3 μcontexts)

Occupation refuses

	Texture, ground mass, structure	Minerals	Organic comp.	Anthropogenic	Features	Sequence
Fireplace cleaning	Silty, layered to massive, homogenous, carbonated (micritic), dusty	Few flint frags Hematite	Very fine charcoals plant remains and phytoliths	Melted silica. Rare fine bone frags	Ferruginisation	Seq4
	Silty, dusty, massive, carbonated		Lot of fine charcoals plant remains and phytoliths Lot of charcoals	Lot of bones Melted silica. Heated quartz. Heated earth aggregates	Ferruginisation	All seq
Cooking / faeces	Silty to sandy silt, dusty, carbonated, layered, planar voids		Lot of fine charcoals Few phytoliths and plant remains Rare seeds	Egg shells, bones, fishbones. Pottery sherds. Ashy aggregates with bones Omnivorous coprolites Glass Clustered phytoliths	P-impregnations Vivianite	All seq
Build. mat.	Silty sand, massive, dusty	Fragments of flint, clay, limestone				All seq
Reworked floors	Layered massive aggregates: building material (plant and/or mineral) and refuse	Clay, silts	Phytoliths, plant remains	Heterogeneous waste		Seq3 F.1035

Mineral building materials

Type	materials	Raw materials	Structure	Occurrences	Sequence
am1	clayish sand or sandy clay, carbonated	Local alluvial sand Carbonated clay from marl	Massive, homogenous, planar voids (cracks), rare vesicles	12	Seq2. (bottom)
am2a	silty sand or sandy silt, not carbonated	Alluvial sand Silt from BT horizon of Luvisol (not local)	Aggregates	11+1 in Seq4	Seq2 (top) Seq3 Seq4
am2b				4	Seq2
am3	not carbonated clay	Local clay from chalk alteration	Massive, homogenous	3	Seq2
am4	chalk mortar	Local alluvial sand		1 + frags in F.1035	Seq2
am5	carbonated clay (marl)	Local marl		2	Seq2 (top)
am6	silty sand, dusty groundmass	Fragments of other floors, waste	Packing of aggregates	1 + 3 in log3	Seq2 (top) Seq3
am7	carbonated clay (marl) with inclusions of clay, limestone, silex, papules, charcoals...	Local marl Silt from BT horizon of Luvisol (not local) Waste		8	Seq4

Complexity of building processes: non local raw materials
 Often rebuilt floors

Plant building materials

Type	materials	Organisation	thickness	Occurrences	Sequence
av1	Phytoliths	Sub-horizontal layers	10 - 100 μm	13	Seq2, Seq3.
av2	A lot of phytoliths. Very fine charcoals.	Sub-horizontal layers of phytoliths and few layers of plant remains partially decayed	100 μm - 3 mm	9	Seq1
av3	Many plant fragments (leaves, rods), few phytoliths	Sub-horizontal layers	200 μm - 1,5 mm	13	Seq2 Seq3

Well maintained surfaces

Litters: smell ? sanitation ? recycling crop-processes refuses (wheat) ?

Dedicated areas (fireplace)

Multiplicity of activities in one space
 Intense frequentation

Reworking of layers leading to 'Dark Earth like' deposits

