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Agnès Gauthier, Pierre Antoine, Patrick Auguste, Laurent Deschodt, David Hérissou, Nicole Limondin-Lozouet, Jean-luc Locht, Clément Vermoux

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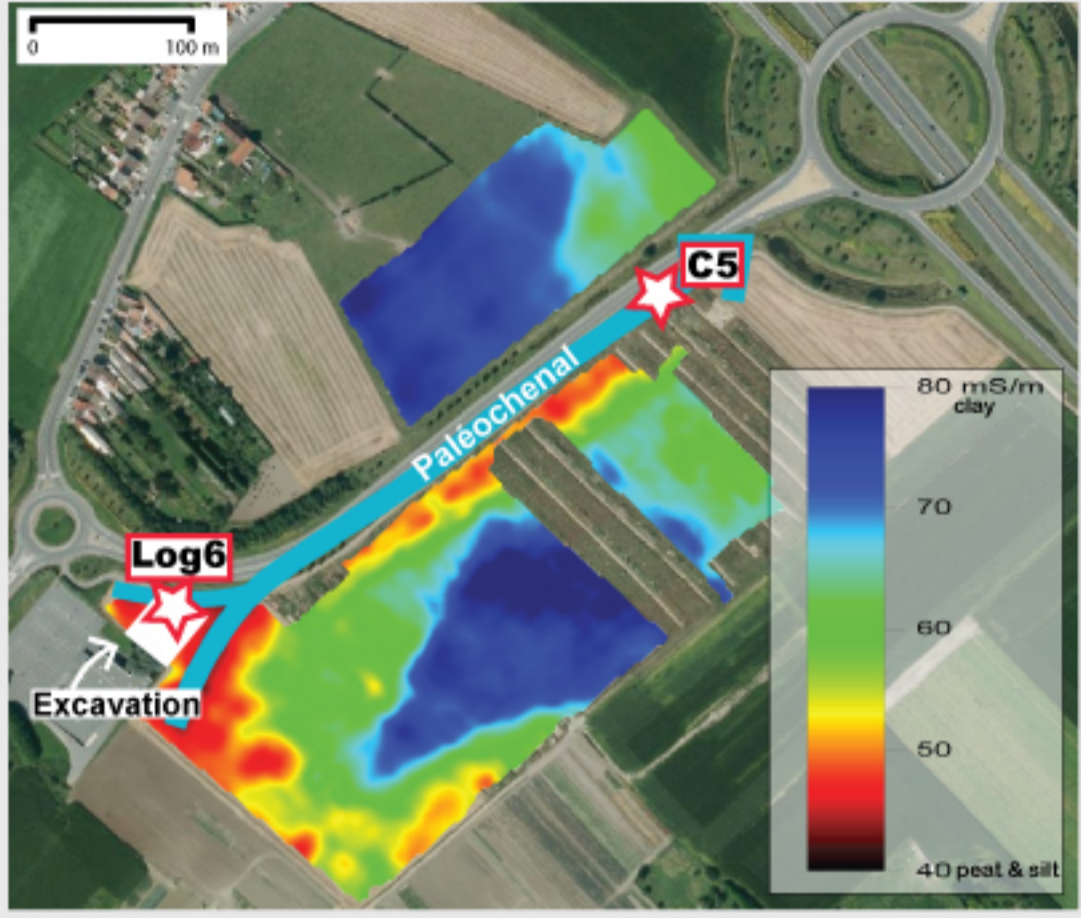
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# Eemian palaeoenvironmental evolution in the northern plains of France from the alluvial sequence of Waziers

Gauthier A., Antoine P., Auguste P., Deschodt L., Ghaleb B., Hérisson D., Limondin-Lozouet N., Loch J.-L., Virmoux

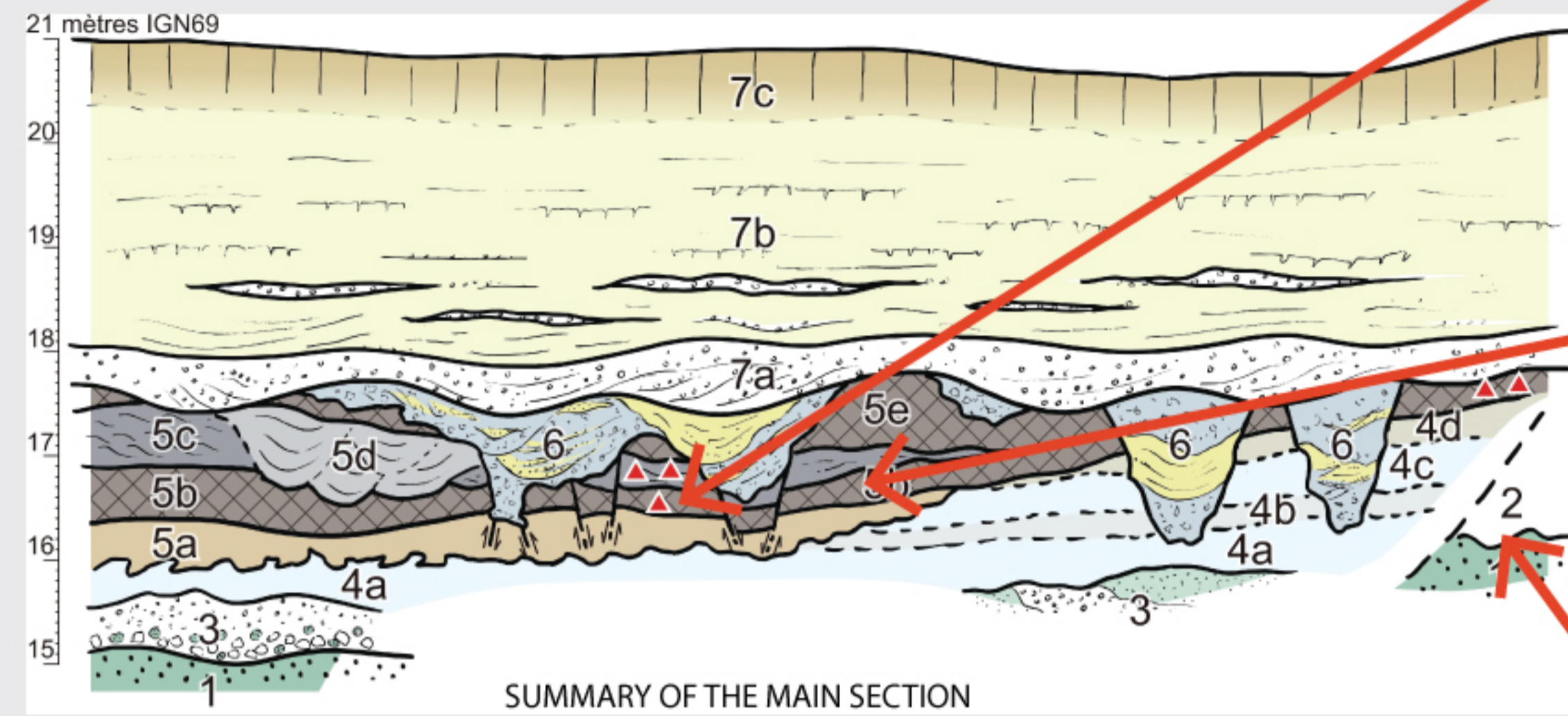
## WAZIERS : exceptional site in northern France a new Eemian sequence and a new middle Paleolithic site



ELECTRICAL CONDUCTIVITY MAP (EM31)  
LOCATION OF LOG6 AND C5 SECTIONS



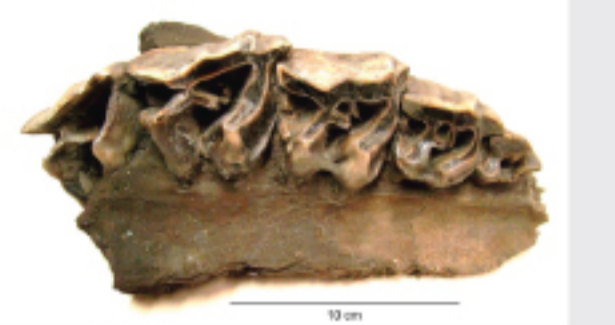
EXCAVATION 2014



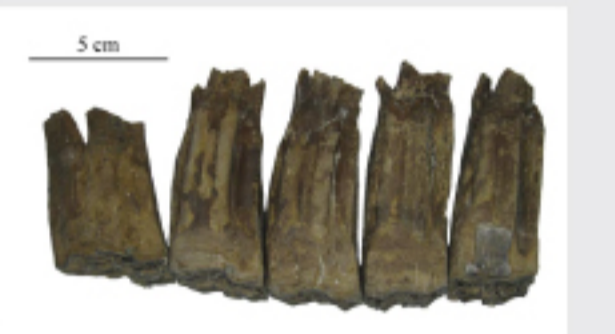
SUMMARY OF THE MAIN SECTION



**lithic artefacts**  
(unit 5b)



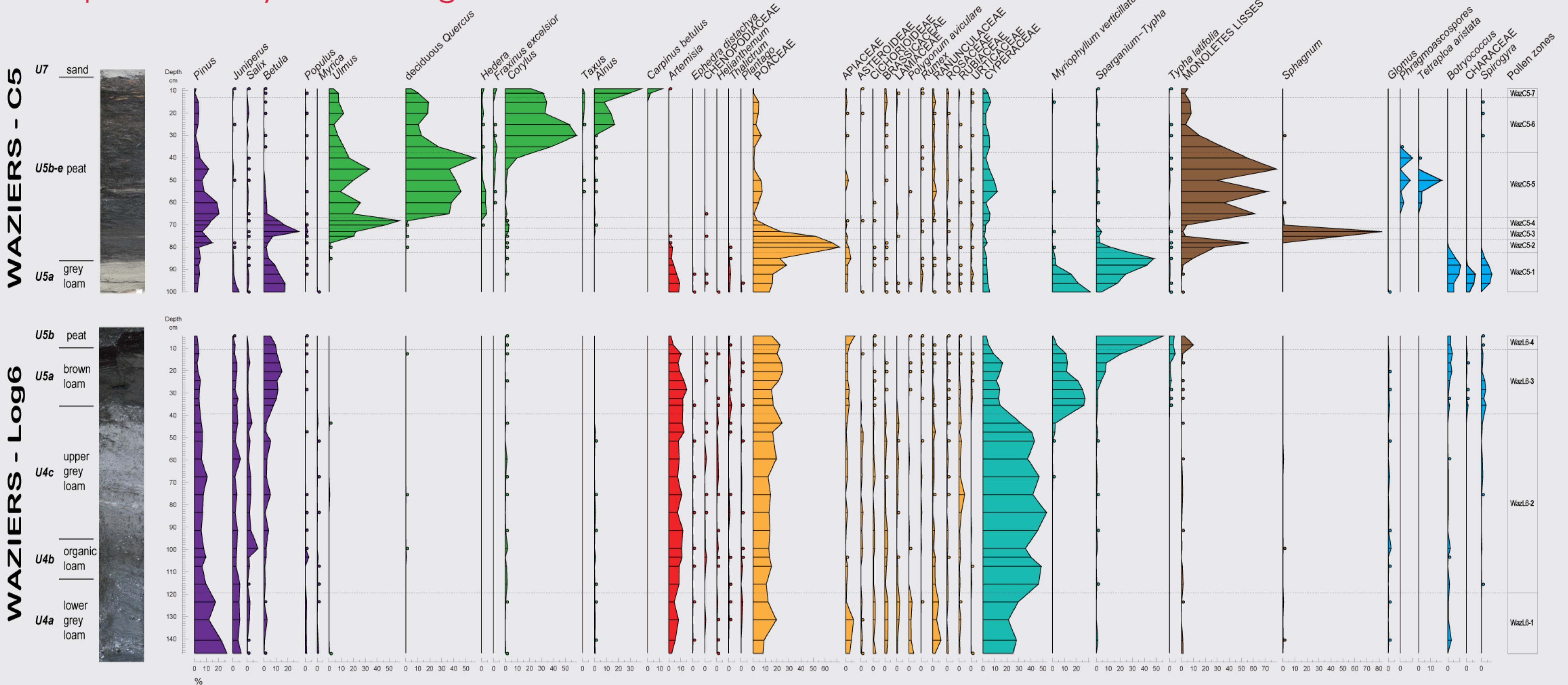
**rhinoceros**  
(unit 5b)



**horse**  
(unit 2)

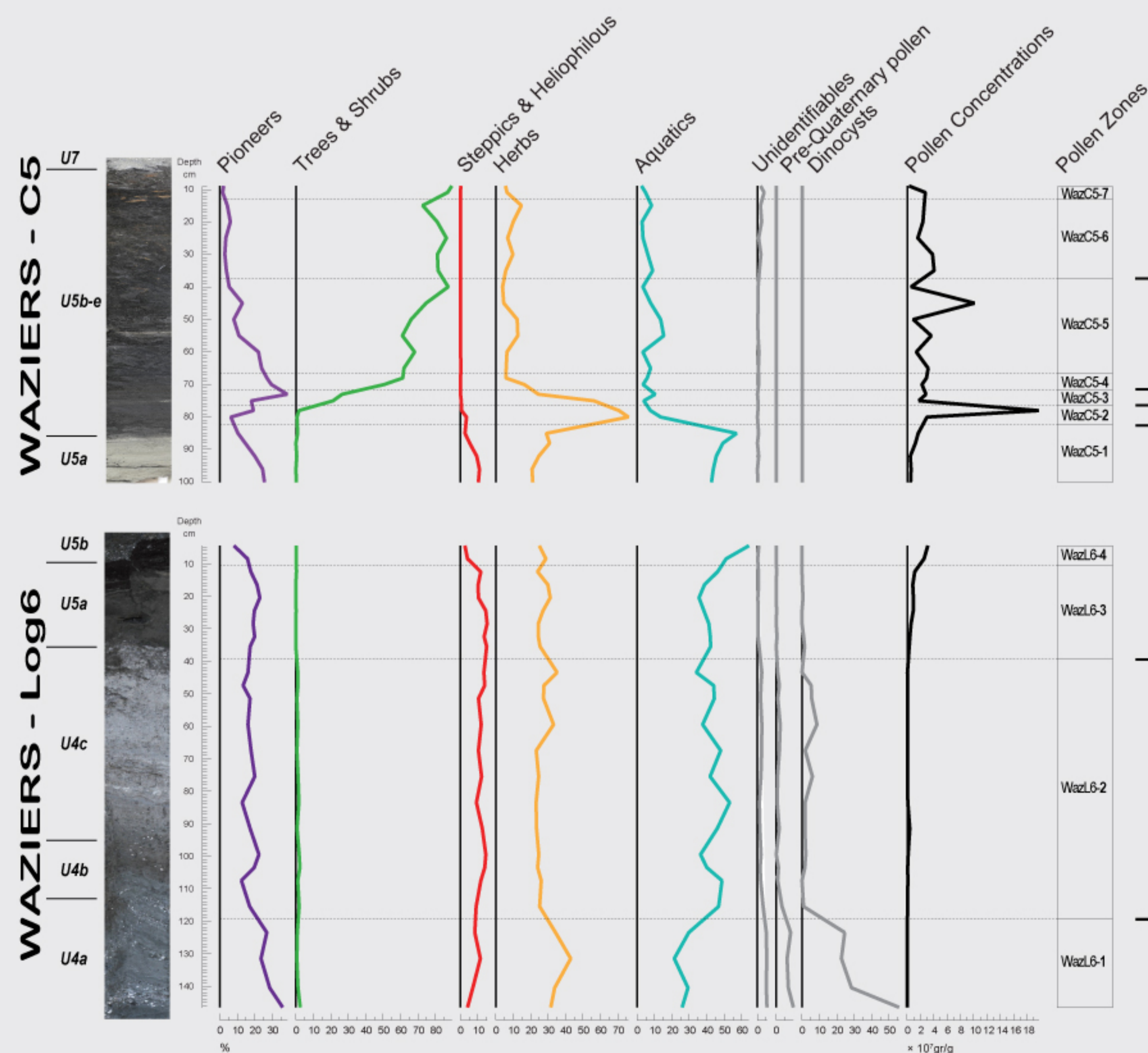
- \* located in the Scarpe river valley
- \* thick alluvial sequence deposited in a large palaeo-meander
- \* correlation to the Eemian: minimum age of 103 + 3.5/-3.4 ka for unit 5c (U/Th date on Characeae oogon) occurrence of the typical Weichselian loess sequence overlying fluvial organic deposits.
- unit 4: mineral fluvial deposits (loam)
- unit 5: organic fluvial deposits (peat)
- units 6 & 7: reworked fluvial deposits & sand and loess

### pollen analysis from Log6 and C5 sections



a classic succession of vegetation from glacial to interglacial conditions  
a typical development of forests associated with the Eemian in Northern Europe

document Neanderthal landscape



#### LOCAL ENVIRONMENT

#### REGIONAL VEGETATION

- alder swamp forest
- Cyperaceae-dominated alkaline marsh abundant ferns in understorey
- anaerobic more acidic *Sphagnum* peat fen
- peat fen development dominated by grasses
- slow flow of water and stabilization of banks: development of aquatic herbaceous plants
- emergent wet meadow with sedges
- erosion processes in unstable mineral soil not fully stabilized by a continuous plant cover

- mesophytic deciduous woodlands succession: dynamic characterized by
  - 1) pioneers trees *Betula* and *Pinus* then *Ulmus* (WazC5-3 & WazC5-4)
  - 2) *Quercus*, then *Corylus* with *Taxus*, *Acer*, *Ilex* and *Hedera* (WazC5-5&WazC5-6)
  - 3) *Carpinus betulus* with *Picea* and *Abies* (WazC5-7)
- steppe-like grassland with some stands of pioneer trees (*Betula*, *Juniperus*, *Pinus*)
- tundra-steppe dominated by sedges, grasses, chenopods and *Artemisia* with sparse shrubs *Salix*, *Betula*, *Ephedra*, *Hippophaë* (tundra in wet habitats and steppe in dry habitats)
- open arctic landscape dominated by herbs

eemian

late saalian