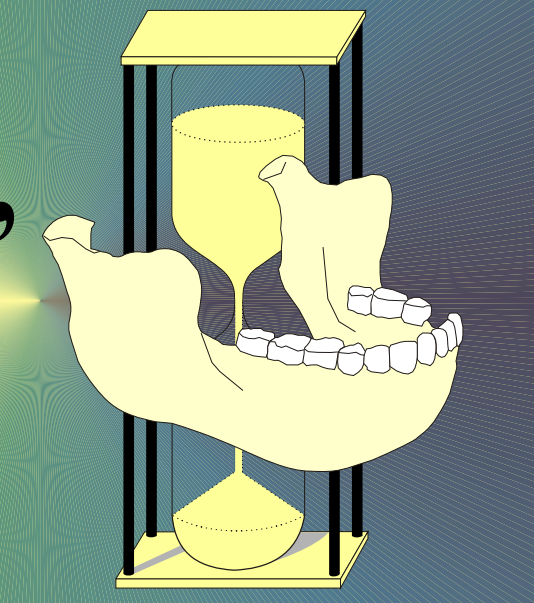




Chronology of Holocene environmental changes at the tell site of Uivar, Romania, and its significance for late Neolithic tell evolution in the temperate Balkans



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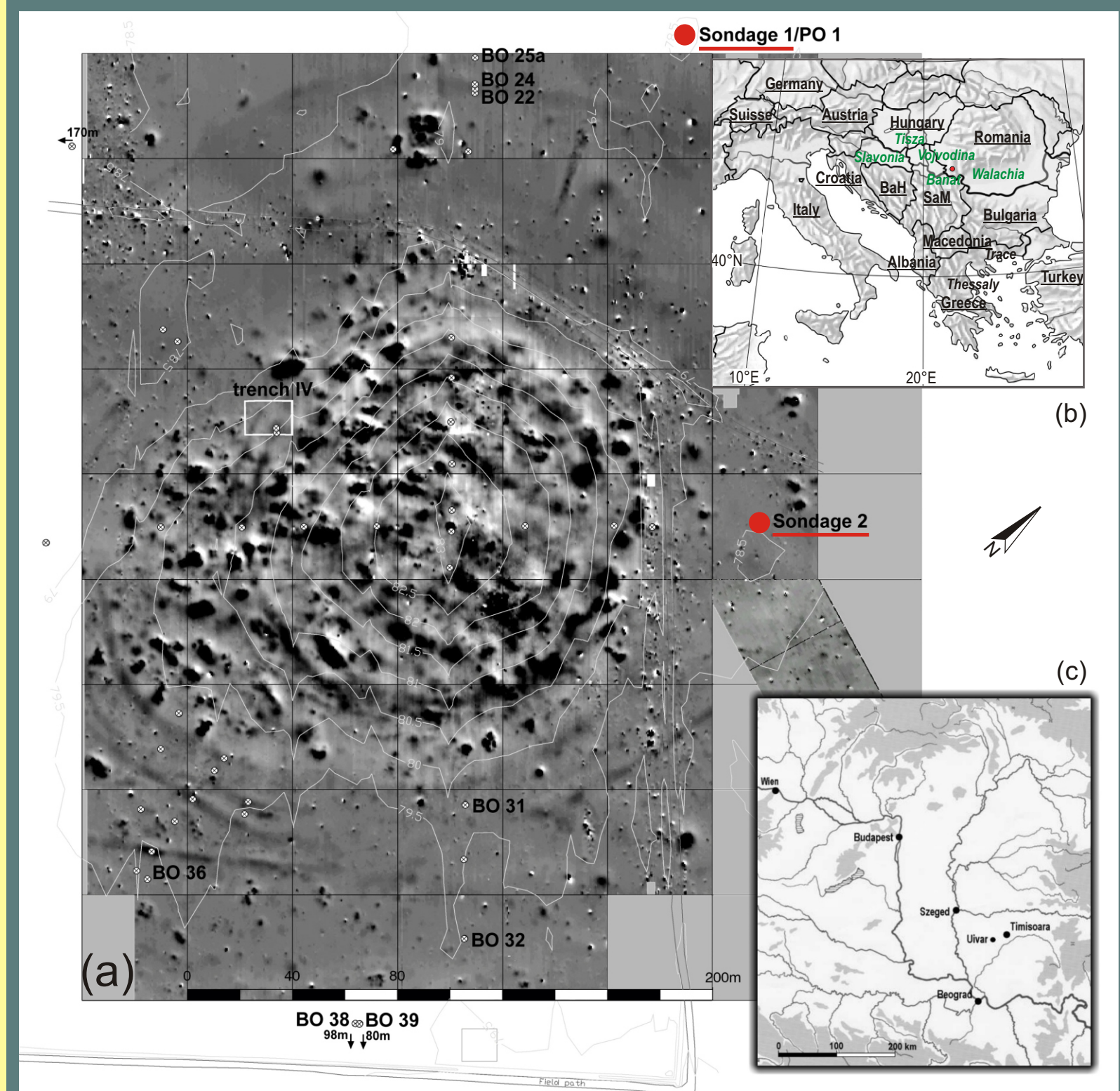


Fig. 1: Study site of Uivar with positions of drillings (cross signatures) for sedimentological (BO#) and palynological analyses (PO#), sondages and trenches. The figure is based on the geomagnetic site map of Becker (2004), which reveals an inner ditch system at the tell footslope (e.g. at trench IV) and an outer ditch system encircling the tell at a distance of ~100 m (e.g. at BO22, BO24).

Results

The geomorphologic survey reveals significant changes of the alluvial landscape around the Late Neolithic/Early Copper Age tell site of Uivar. Today the plain is filled and almost evenly levelled by mid-late Holocene sediments (figs. 3+4). Underneath, a more pronounced palaeo-relief is buried consisting of a formerly active floodplain to the north and a flood-safe lower terrace to the south (fig. 5). The early tell site was situated at the fringe of the floodplain, presumably on a slightly elevated river terrace remnant.

As OSL-dating reveals partial bleaching of the waterlain sediments (e.g. fig. 2e), only maximum ages can be given. Fluvial reworking of the sandy alluvial silts lasted at least until ~6.5 ka (HDS-1287, HDS-1288, HDS-1281 in figs. 6 + 7, OSL-ages with 1- error-level). This corresponds to the age of ~6.4-6.9 ka of charcoal remains from the lower parts of the infillings of the interior ditch system at 'trench IV' (fig. 1) (Hd-22930 4775-4365 cal BC, Hd-22751 4850-4695 cal BC, Hd-22659 4830-4625 cal BC, 14C-ages with 2- error-level). Since the dates for the inner ditches and the surrounding sediment are not discriminable, it is most likely that the earthwork was built just after a time when more intense fluvial activity ceased ~6.5 ka ago at the beginning of the Holocene Climate Optimum. In contrast to later periods, at that time the groundwater table must have been much lower, reaching well below the bottom level of the Neolithic ditches, which otherwise would have collapsed in the non-cohesive sediment.

Corresponding contemporary changes in fluvial dynamics were observed at tell localities on the Teleorman river in S-Romania (Bailey et al. 2002) making a climatic signal likely. This hypothesis is confirmed by the climatic record of a stalagmite from Ursilor Cave, NW-Romania, which after a cooling event with increased rainfall ~7 ka ago reveals normal-wet conditions after ~6.8 ka (Onac et al. 2002).

At Uivar all the other sediments clearly post-date the Neolithic settlement period. No geoarchaeological evidence was revealed that might explain the early abandonment of the settlement mound in the Early Copper Age period.

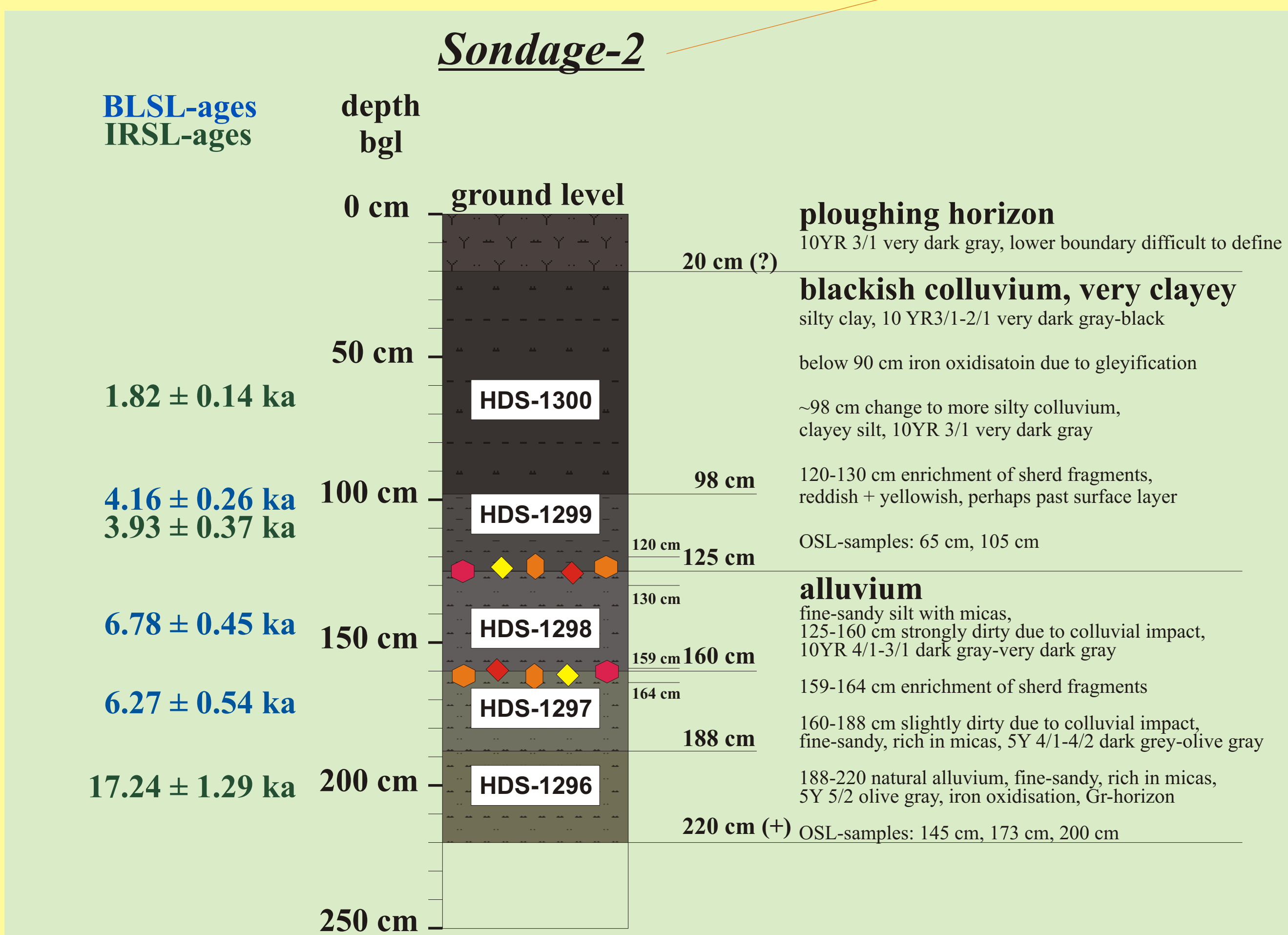
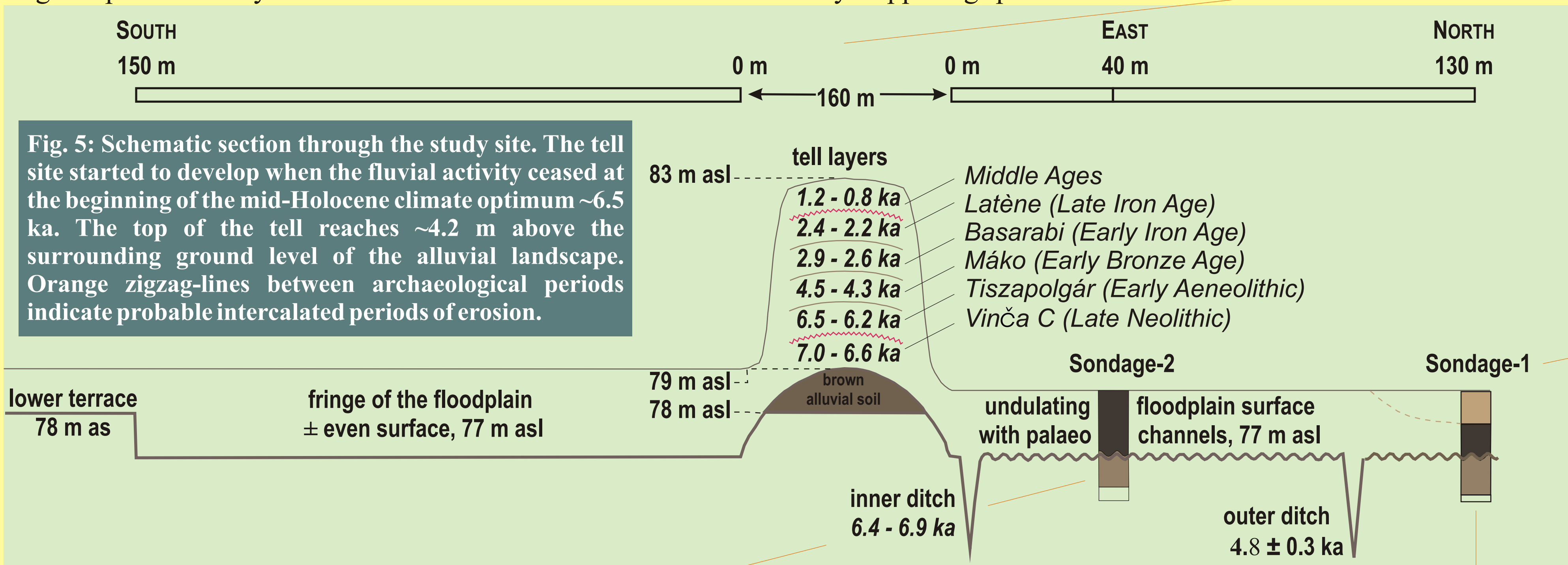


Fig. 6: Stratigraphy and OSL-ages at Sondage-2.

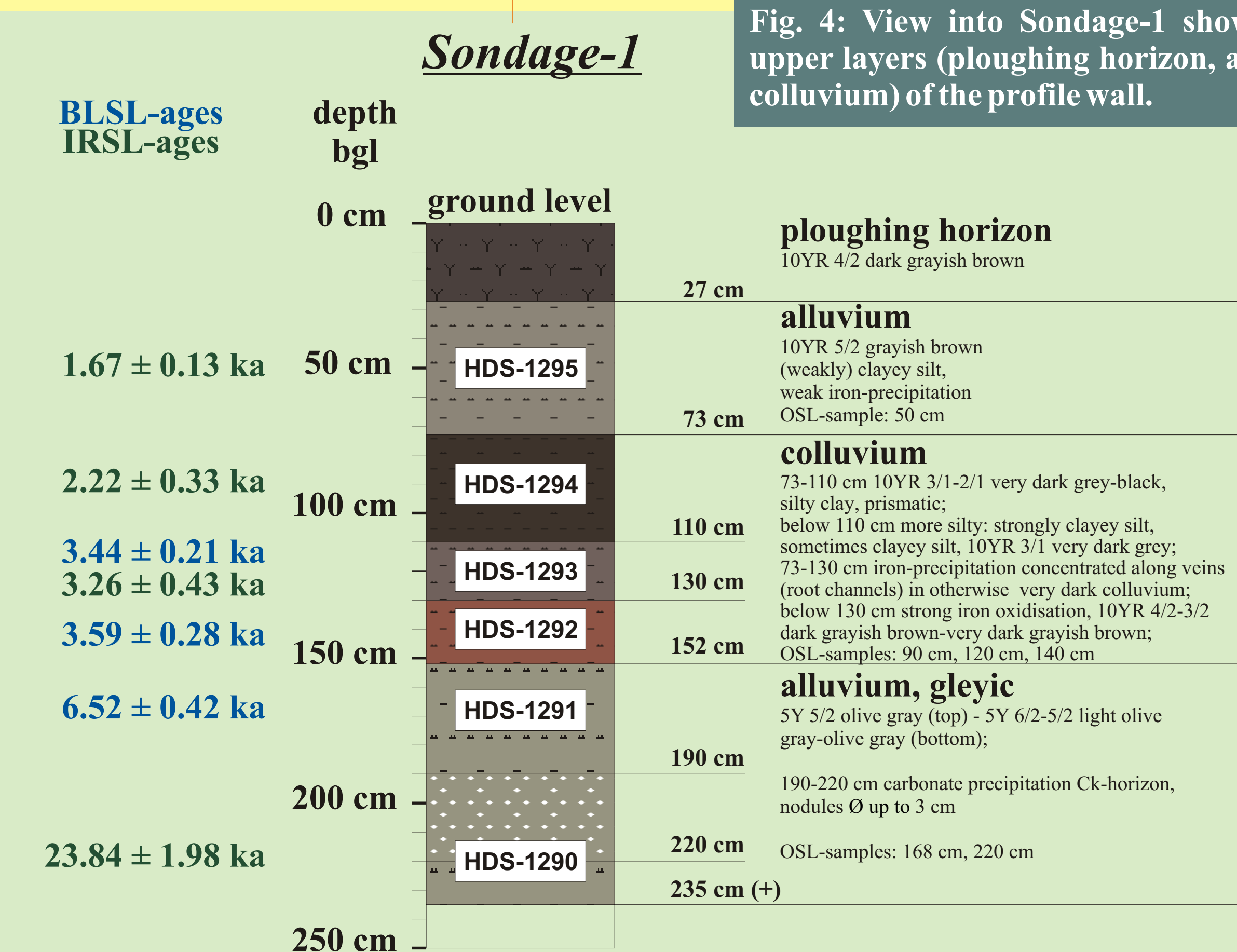


Fig. 7: Stratigraphy and OSL-ages at Sondage-1.

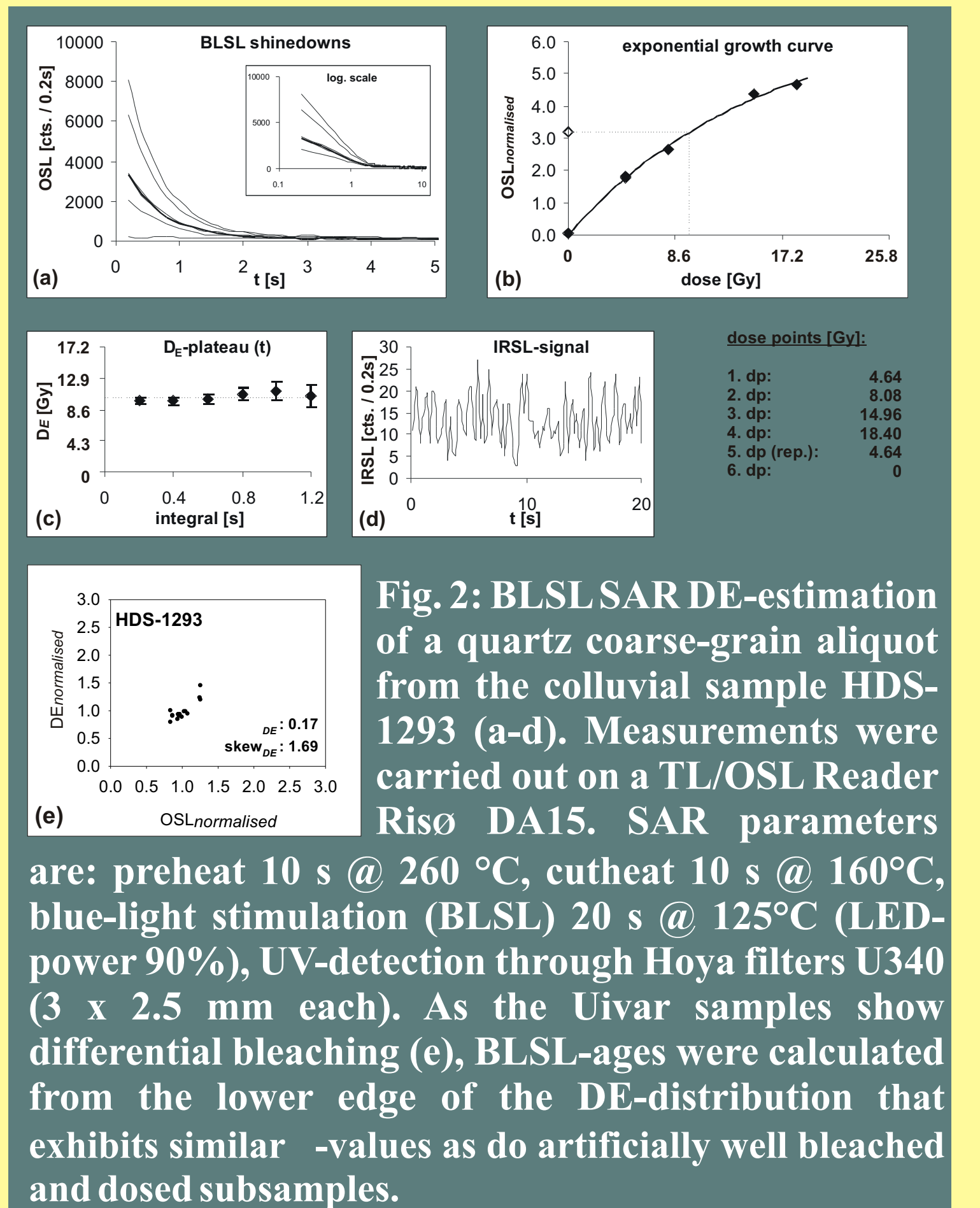


Fig. 3: View from the tell site to the northern sector. Today the surface of the alluvial plain is even, levelling an underlying relief of a former fluvial landscape.



Fig. 4: View into Sondage-1 showing the upper layers (ploughing horizon, alluvium, colluvium) of the profile wall.