

Figure S1 - Digital mapping of the Yukechi Alas landscape (red); lakes were digitalized in blue, Alas basins were digitalized in green; sampling locations Alas1 and YED1 marked in yellow; the 765 m distance between YED1 and Alas1 is marked by a red dotted line; satellite image taken from Google Earth.

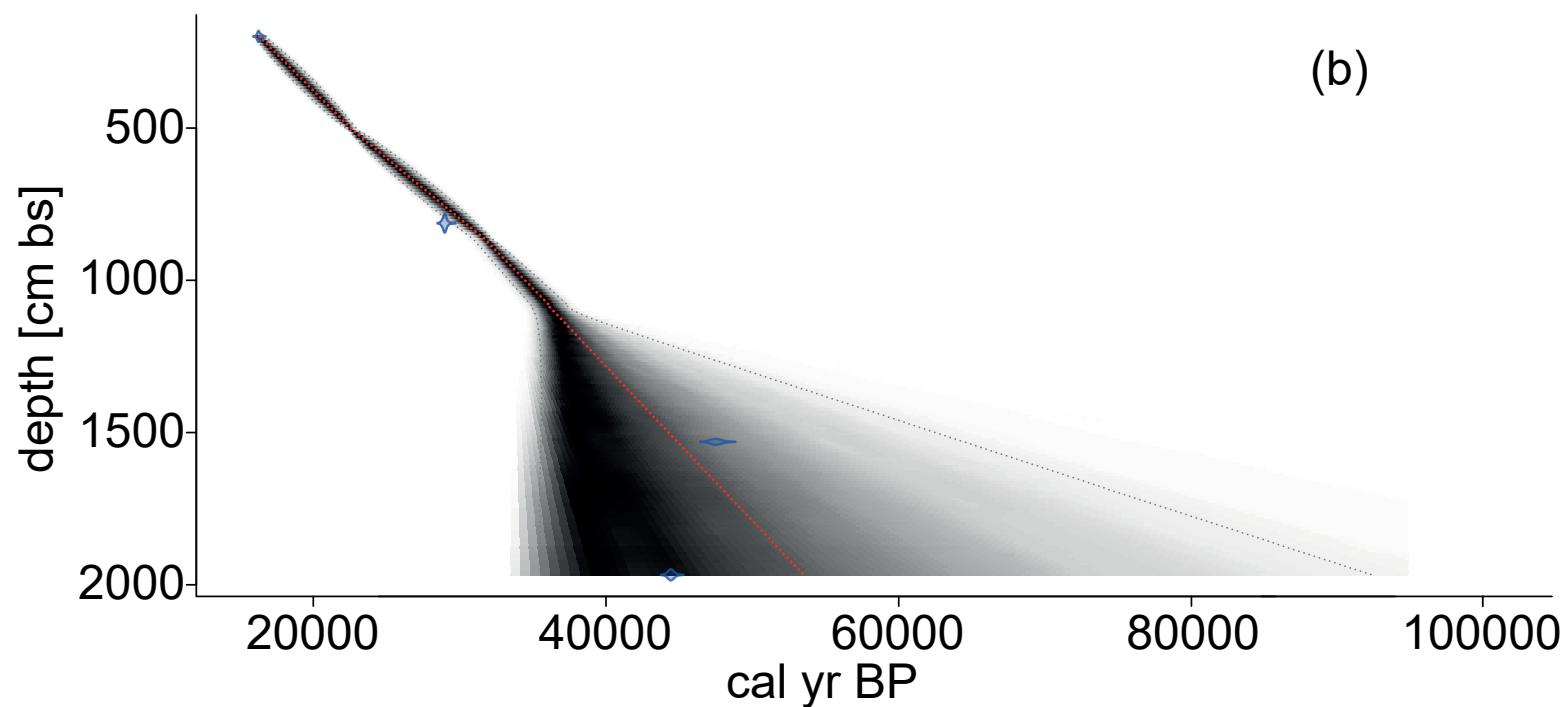
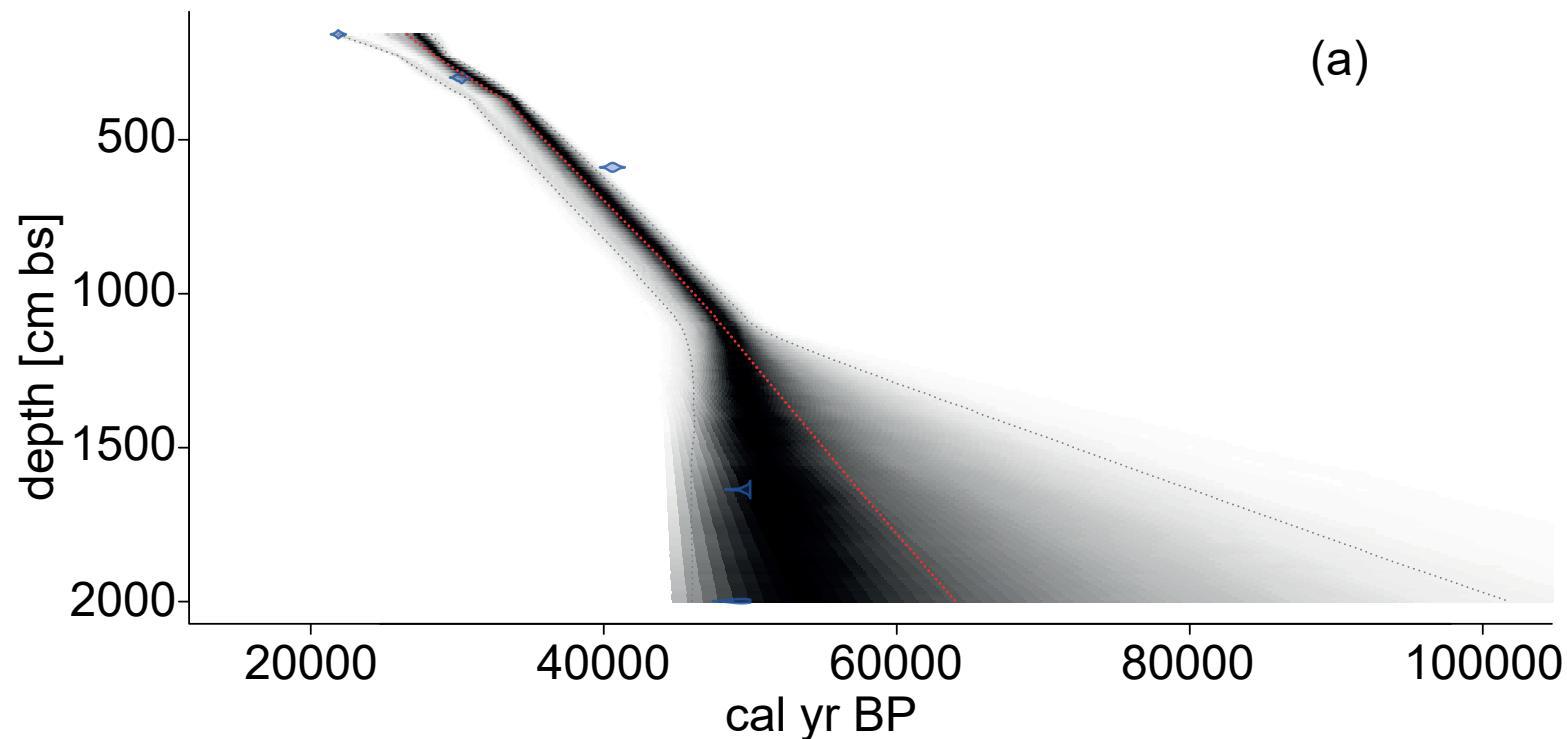


Figure S2 - Age-depth models for a: YED1 and b: Alas1; radiocarbon ages in blue with uncertainties; median in red; model confidence indicated by grey (low) to black (high) shades; created with the Bacon package in the R environment.

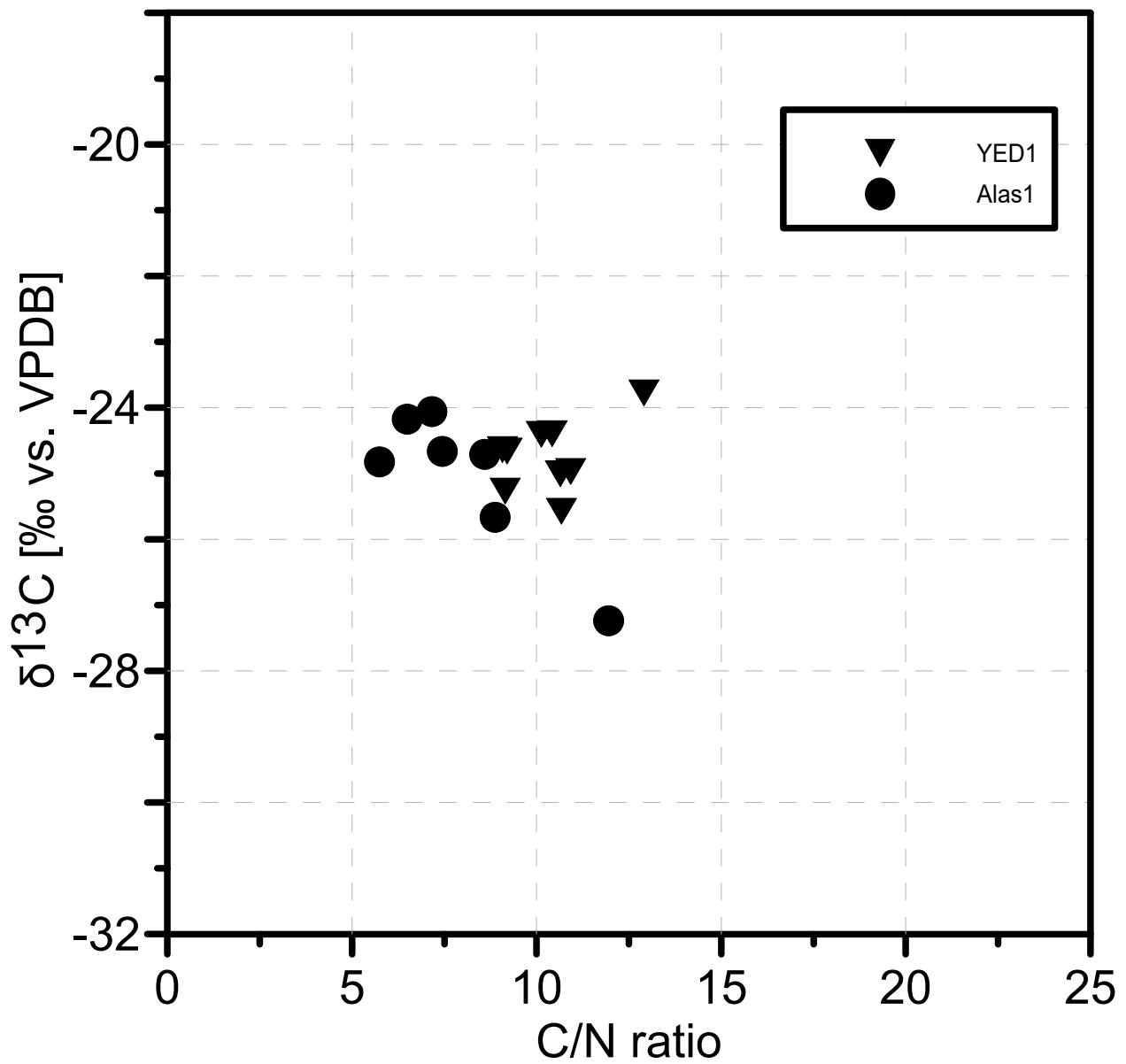


Figure S3 - C/N values of YED1 (triangles) and Alas1 (dots) plotted over $\delta^{13}\text{C}$ values.

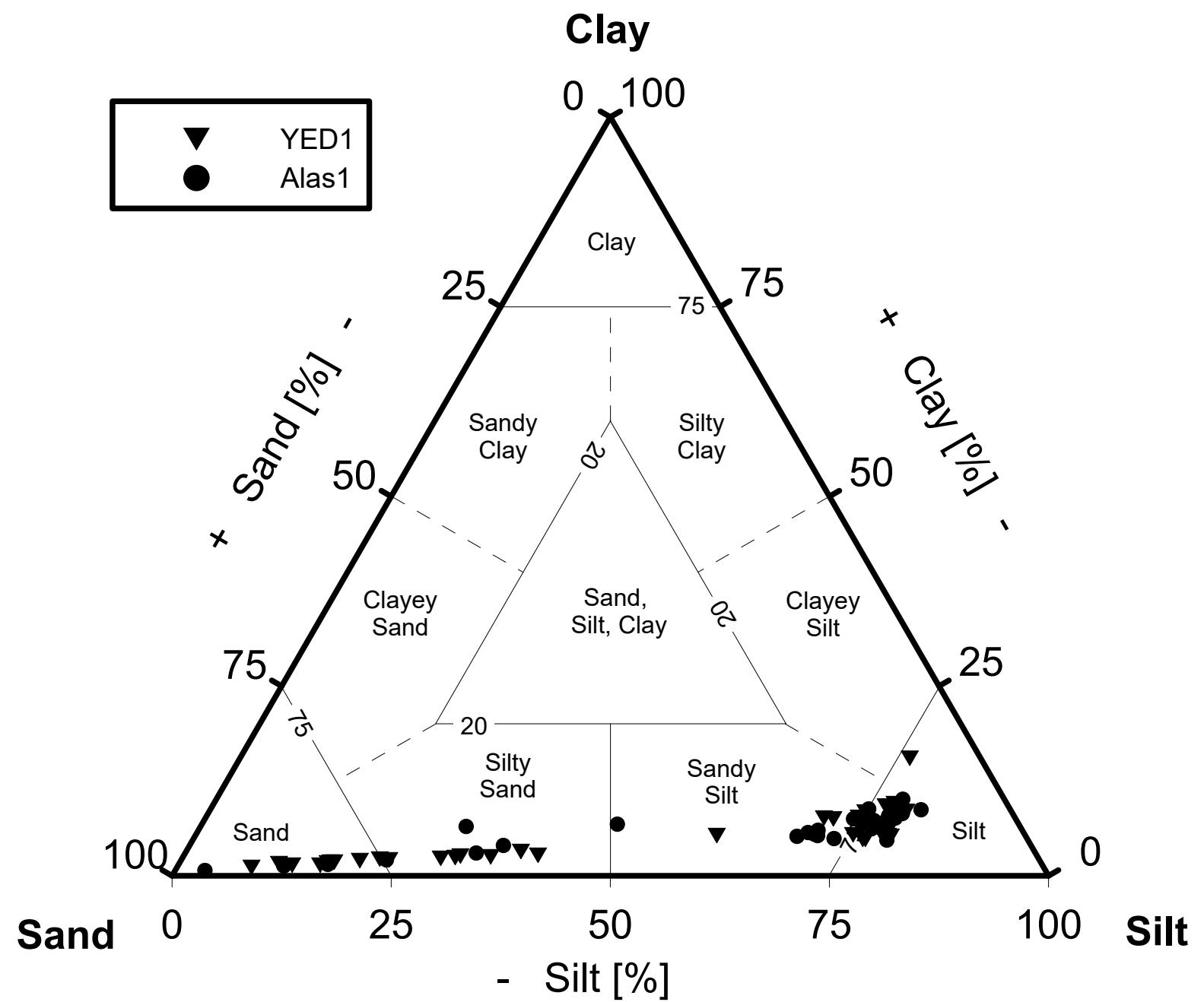


Figure S4 - Sediment triangle after Shepard showing the grain size composition.

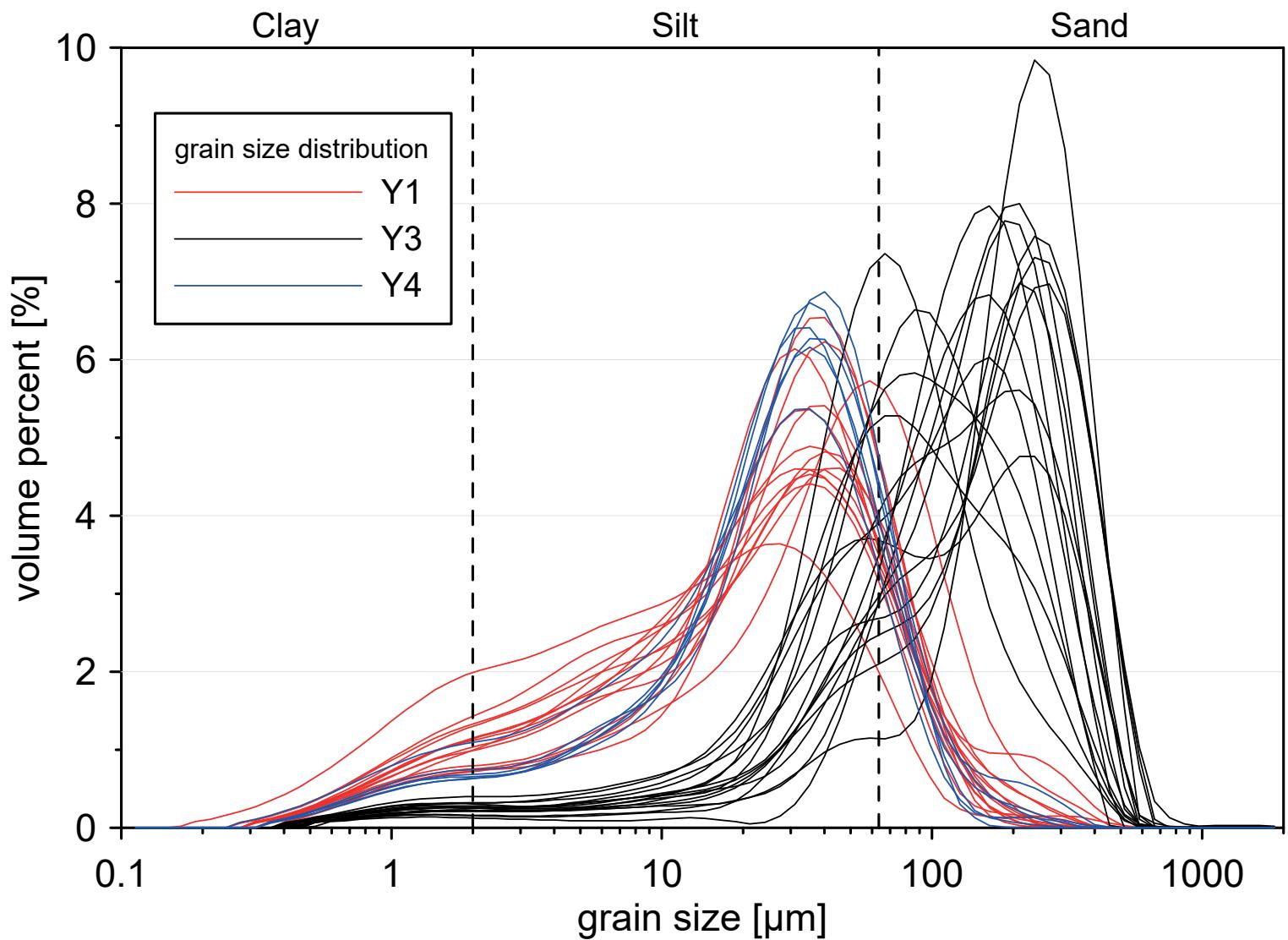


Figure S5 - Grain size distribution for the YED1 core; Y1 to Y4 indicate the different stratigraphical units; core unit Y2 did not hold any sediment.

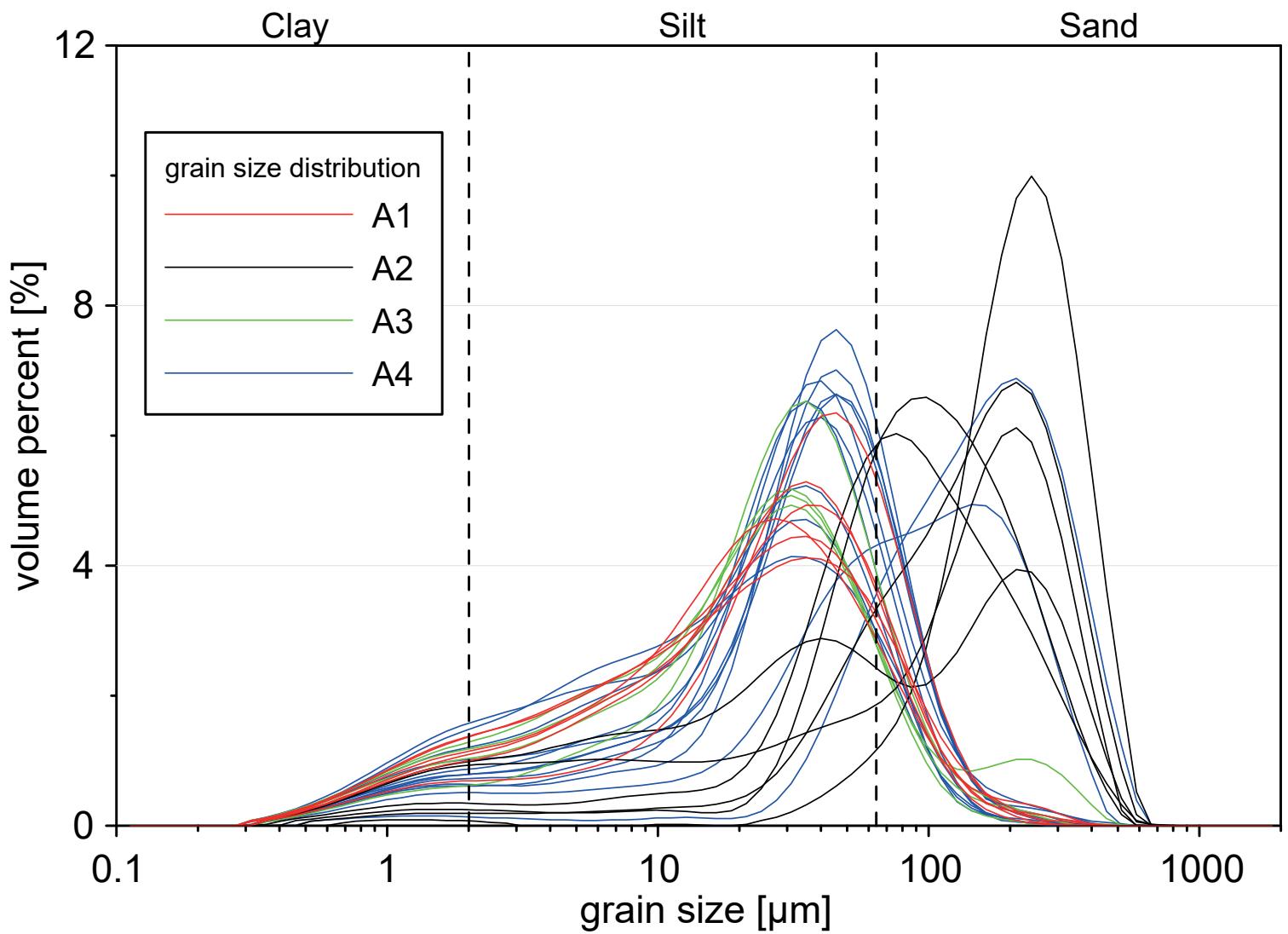


Figure S6 - Grain size distribution for the Alas1 core; A1 to A4 mark the different stratigraphic units.

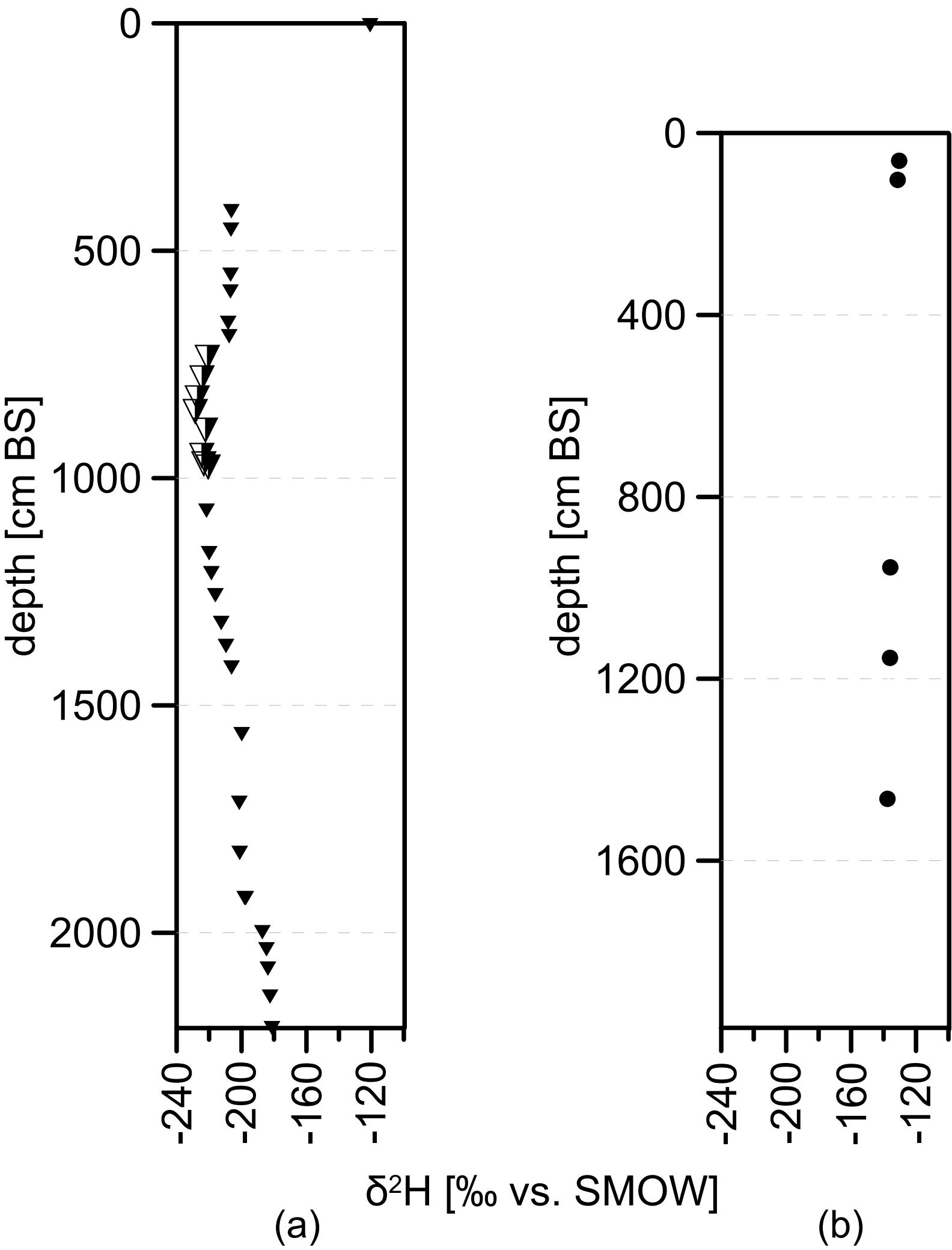


Figure S7 - $\delta^2\text{H}$ values of YED1 (a) and Alas1 (b) plotted over depth; semi-hollow triangles in (a) mark the ice wedge samples.