



**Figure S1.** Modelled age depth profile at the BELDC drill site along with age uncertainty. Results for the DELORES dataset are in orange, results for the LDC-VHF dataset are in blue with the shaded areas showing  $1\sigma$  uncertainty. Black circles are the isochrone ages with their age uncertainties shown as horizontal bars (Tables I and II respectively). The thick continuous lines show the radar observed bedrock depths  $H_{obs}$  (colors indicating the dataset origin), the dashed lines provide the top of the modelled stagnant ice layer  $H_m$  and the dotted black line shows the top of the basal unit traced in the LDC-VHF radar survey. The inset shows the deepest modelled section in more detail. Note that the observed basal unit (dotted black line) and LDC-VHF modelled stagnant ice (dashed blue line) depths are 2577 m and 2576 m respectively and therefore overlap.