**Figure DR1:** Seismic reflection line ISE 9 and an interpretation of this line (for more details see Clark et al. 2007). The ISE 9 line is a North-South oriented line perpendicular to the other lines discussed in our work (for trace of the line see map above). Note that this line shows a similar crustal structure like the East-West directed lines shown in Fig. 3 and no evidence for a major transform fault limiting the Galicia Bank and the Southern Iberia Abyssal plain can be observed.

**Reference cited:**