APPENDIX 3

Joints interpretation from boreholes located in Eastern Pomerania

In the Opalino 4 borehole (n = 84) three main JS 1 - 3 (st = 018°, 303° and 340°) are well distinguishable with clear maxima on the contour plot. Additionally, based on a small number of observations, ambiguous JS 4 (st = 088°) was detected.

In the Opalino 3 borehole (n = 254) only JS 2 (st = 293°) clearly corresponds to one of the main joint sets but has a noticeably smaller dip angle. The second conspicuous JS associated with strikes of 315° is enigmatic and apparently a local feature, which also occurs in Opalino 2 well. However, some similarities visible as bimodality of JS 2 occur also in Wysin 1 and Lubocino 1. Another JS striking 001° is typical only for Opalino 3. It is ambiguous if this one belongs to JS 1, JS 3, or is not associated with them. Sets striking 016°and 043°also consist of a small number of observations, however, their orientations correspond to similar ones in other data (JS 1 ans JS 5). A fracture cluster striking 048° can be ignored as an artefact.

The Opalino 2 borehole data (n = 125) shows similarity to Opalino 3, mainly through the occurrence of 324° striking JS and less step JS 2 (st = 296°), which shows two closely lying maxima on the contour plot. Beside them, JS 1 (st = 013°) is clearly visible, while JS 5 (st = 058°) is ambiguous due to a small number of observations.

The Wysin 1 borehole data present a small number of observations (n = 50), where three main sets are clearly distinguishable, JS 1 (st = 017°) and JS 3 (st = 339°) create relatively clear maxima, while JS 2 (st = 291°) is blurred, with two maxima. Still, it is ambiguous whether this is the effect of a low number of observations or a feature similar to that observed in the Opalino 2 and Opalino 3 datasets. Additionally, JS 4 (st = 082°) and JS 5 (st = 061°) are present, but their maxima are uncertain due to low observation count. Cluster striking 345° can be ignored as an artificial one.

The Miłowo 1 borehole data consist of the highest number of observations (n = 1273). It is highly dominated by JS 1 (st = 028°). Furthermore, the other joint sets, JS 3 (st = 338°), JS 4 (st = 080°), and JS 2 (st = 318°), are also present. However, from this three JS, only JS 2 creates clear maxima on the contour plot.

In the Borcz 1 borehole (n = 714) the situation is similar to the previous one. There is a clear dominance of JS 1 (st = 025°), despite this also JS 3 (st = 336°), JS 2 (st = 291°), and JS 5 (st = 048°) are recognizable. JS 3 and, especially, JS 5, do not show clear maxima on the contour plot.

The Lubocino 1 borehole data (n = 94) consist of three main joint sets (JS 1, JS 2, and JS 3 – striking 025°, 303°, and 343°, respectively), from which JS 1 and JS 2 are relatively wide comparing to the other data. Additionally, JS 2 presents multimodal behaviour, which makes it difficult to clearly determine its orientation. The presence of JS 4 (st = 079°) is indisputable, while the cluster with strikes of 291° is ambiguous.