



The early life of a Salt Giant: syndepositional basement faulting in the Zechstein of NE Netherlands.

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The Zechstein of NE Netherlands is often thought to have been deposited in a tectonically quiet environment. In this study we attempted to test this hypothesis using very high quality 3D seismic and well data, mapping in detail the seismic reflections of the thick, anhydrite - dolomite Z III stringer, encased in thick layers of rock salt as a strain marker. We focused on the Friesland platform which was only weakly affected by later salt tectonics.

First results show that the stringer contains (i) a regional network of thicker zones (TZ) which are interpreted to reflect the interaction of anhydrite dewatering pathways and localized dissolution of salt below fracture systems in the stringer, and (ii) a network of zones where the stringers are absent, interpreted as ruptures formed by salt flow. These ruptures in many cases mark a clear vertical shift of the sub-horizontal stringer. Mapping of the base salt and top salt reflectors shows that the ruptures often coincide with faults at base Zechstein level, and that the thickness of the post-stringer rock salt layers is thicker where the stringers are lower, while the total salt thickness is relatively constant. We interpret these structures as evidence for movement on the faults at base salt, during Zechstein times, suggesting that Zechstein deposition was syn-tectonic.