



Seismic pore pressure prediction at the Halten Terrace in the Norwegian Sea

Ole Gunnar Tveiten, AGR

Tim Wynn, TRACS International

Eyvind Aker, Norwegian Computing Centre

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Pre-drill pore pressure prediction is essential for safe and efficient drilling and is a key element in the risk reducing toolbox when designing a well.

On the Norwegian Continental Shelf pore pressure prediction commonly relies on traditional 1D offset analysis whereas velocity data from seismic surveys are often not considered.

Our work with seismic interval velocities shows that the velocity field can provide an important basis for pressure prediction and enable construction of regional 3D pressure cubes.

This increases the confidence in the pore pressure models and aids the pre-drill geo-hazard screening process. We demonstrate how a 3D velocity field can be converted to a 3D pore pressure cube using reported pressures in offset wells as calibration points. The method is applied to a regional dataset at the Halten Terrace in the Norwegian Sea; an area with a complex pattern of pore pressure anomalies which traditionally has been difficult to predict. The algorithm is searching for a velocity to pore pressure transform that best matches the reported pressures. The 3D velocity field is a proxy of rock velocity and is derived from seismic surveys and verified to check shot velocities and sonic data in the offset wells.

To download the paper, please visit

[https://www.researchgate.net/publication/332384049 Seismic pore pressure prediction at the Halten Terrace in the Norwegian Sea](https://www.researchgate.net/publication/332384049_Seismic_pore_pressure_prediction_at_the_Halten_Terrace_in_the_Norwegian_Sea)