

DOCTORAL CANDIDATE: Juha Matti Ahokas
DEGREE: Philosophiae Doctor
FACULTY: Faculty of Mathematics and Natural Sciences
DEPARTMENT: Department of Geosciences
AREA OF EXPERTISE: Sedimentology
SUPERVISORS: Johan P. Nystuen (UiO) & Allard Martinus (Statoil)
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DISSERTATION TITLE: *Paralic Sandstone Bodies of the Neill Klintner Group: Sedimentology, Sequence Stratigraphy and Reservoir Characterization (Early Jurassic, Jameson Land Basin, East Greenland) with reference to the Mid-Norwegian Continental Shelf*

In this thesis Ph.D. student, Juha Ahokas investigates depositional process – product relationships in the Early Jurassic paralic sedimentary succession of the Neill Klintner Group in Jameson Land, East Greenland (between ~70-72°N and ~21-25°W). This outcrop analogue study documents facies changes and facies architecture, and interpret and sequence stratigraphic architecture created by the allogenic and autogenic factors.

Outcrop analogues play a central role in improving understanding of subsurface reservoir architectures by providing important information on geobody size, geometry and potential connectivity. In the current study, emphasis is given to the complex process – product interaction of fluvial, tidal and wave energy, creation of accommodation space, changes in the rate of sediment supply and sedimentation. Resulting multiscale heterolithic stratigraphic and sedimentological property distribution respond to high frequency interplay of these factors in time and space.

Applying process – product understanding in order to build a sound conceptual depositional model is highly relevant for reservoir characterization. Without such sound models that honour all the input data (i.e. processes and products, sequence stratigraphy), drilling and drainage scenario strategies will be significantly less certain and less reliable.

The results obtained during this Ph.D. study have been compared with similar sub-surface paralic formations on the mid-Norwegian continental shelf. The results also have general application in other basins influenced by the complex interaction of fluvial, tidal and wave energy during changing relative sea level at different magnitudes.