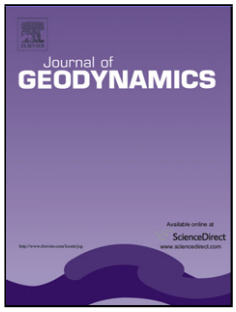

Title: Basement inheritance and salt structures in the SE Barents Sea: Insights from new potential field data

Authors: Laurent Gernigon, Marco Brönner, Marie-André Dumais, Sofie Gradmann, Arne Grønlie, Aziz Nasuti, David Roberts

PII: S0264-3707(17)30188-6
DOI: https://doi.org/10.1016/j.jog.2018.03.008
Reference: GEOD 1557

To appear in: *Journal of Geodynamics*

Received date: 21-8-2017
Revised date: 19-3-2018
Accepted date: 25-3-2018

Please cite this article as: Gernigon, Laurent, Brönner, Marco, Dumais, Marie-André, Gradmann, Sofie, Grønlie, Arne, Nasuti, Aziz, Roberts, David, Basement inheritance and salt structures in the SE Barents Sea: Insights from new potential field data.Journal of Geodynamics https://doi.org/10.1016/j.jog.2018.03.008

Monday, 19 March 2018

Basement inheritance and salt structures in the SE Barents Sea: Insights from new potential field data

Laurent Gernigon[1*]; Marco Brönner[1]; Marie-André Dumais[1]; Sofie Gradmann[1]; Arne Grønlie[2]; Aziz Nasuti[1] and David Roberts[1]

*1: Geological Survey of Norway (NGU), Trondheim, Norway. *Corresponding author (laurent.gernigon@ngu.no)*

2: Aker-BP, Trondheim, Norway

Arctic Special Issue – Journal of Geodynamics (Deadline March 20)

Revised version 16/03/2018

Highlights

A new aeromagnetic survey (BASAR-14) acquired in the southeastern Barents Sea

Quantitative and qualitative analysis new potential field and seismic data

Gravity and magnetic signatures of salt-related structures

Inherited structures influence the rifting and salt tectonic development of the Barents Sea sedimentary basins.

abstract

The tectonic evolution of the former 'grey zone' between Russia and Norway has so far remained poorly constrained due to a lack of geophysical data. In 2014, the Geological Survey of Norway (NGU) carried out a new state-of-the-art aeromagnetic survey (BASAR-14) in the southern part of the new Norwegian offshore territory. The new BASAR-14 survey completes and extends the pre-existing aeromagnetic compilation and mapping of the Norwegian Barents Sea. We present this new magnetic dataset and its interpretation combined with gravity and seismic data. Caledonian and Timanian structures, highlighted by the new potential field data, dominate the basement patterns and have exerted a strong influence on the structure and development of the overlying