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Late Cretaceous to Paleogene sand provenance, deposition and tectonomagmatic development in the southern Møre Basin, Norway

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Upper Cretaceous and Paleocene sandstone strata represent promising reservoirs along the NE Atlantic margins, including new discoveries in recent years that has spurred increased activity in the area. Exploration and seismic imaging is complicated by massive Paleocene magmatism related to late rifting and early breakup, forming voluminous sill and dyke complexes hosted in the sedimentary succession and extrusive complexes, such as volcanic edifices and lava flows along the margin. Such igneous activity may have played an important role in the thermal and chemical history of reservoir zones. Their diagenetic properties as well as their physical appearance is expected to have been altered by the intrusions, breaking predictive trends otherwise common for deep-marine sedimentary strata. A new understanding of the nature and implication of igneous processes and deposition of sediments, combined with new understanding of sand source-to-sink systems in the region, is thus important to better evaluate the prospectivity of the southern Møre Basin. The focus of this project will therefore be to assess sand provenance and depositional systems in basins in this area by incorporating on shore field work with integrated borehole and seismic studies. The main goal is to develop a new understanding of deposition of sand fairways during the Late Cretaceous and Paleogene to better understand this part of the break-up history of the NE Atlantic.

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