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Nota di contenuto	Introduction -- Data and Methodology -- Seismic Attribute Analysis for Detection of Highly Compartmentalised Reservoirs -- Impact of Arid Surface Mega-Cracks on Hydrocarbon Reservoir Properties -- Facies Analysis of Cores from 4 Wells from Northern Central Germany -- Nano-Scale Porosity Analysis of a Permian Tight Gas Reservoir -- Conclusions and Outlook -- References. .
Sommario/riassunto	"The thesis of Philipp Antrett is focused on reservoir properties, petrography, lithofacies and sedimentology, core analysis and nanoporosity studies. It will be of major interest for colleagues involved in the exploration and production of tight gas reservoirs in Northern Europe and elsewhere." - François Roure, August 2012 This thesis describes a multidisciplinary, multiscale approach to the analysis of tight gas reservoirs. It focused initially on the facies architecture of a Permian tight gas field in the Southern Permian Basin (SPB), East Frisia, northern Germany. To improve field development, 3D seismic data, wireline and core data were compared to a reservoir analogue in the Panamint Valley, California, United States. In addition to the large scale approach, a work flow that investigates microporosity by combining Scanning Electron Microscopy-Broad Ion Beam (SEM-BIB) and optical microscopy was developed. For a better understanding of the depositional environment and reservoir rock distribution in the SPB, a sedimentary facies analysis of four cores from the tight gas field in East

Frisia was compared to a second study area in northern central Germany. This study demonstrates that tight gas exploration and production requires multidisciplinary, multiscale approaches beyond standard seismic interpretation work flows to better understand the temporal and spatial evolution of these complex reservoirs.
