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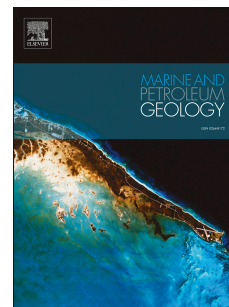
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Sequence stratigraphy and depositional architecture of the Pearl River Delta system, northern South China Sea: An interactive response to sea level, tectonics and paleoceanography

Min He ^{a,b}, Haiteng Zhuo ^{c,*}, Weitao Chen ^b, Yingmin Wang ^{c,d}, Jiayuan Du ^b, Lihua Liu ^b, Liliang Wang ^d, Haiqing Wan ^d

^a State Key Laboratory of Marine Geology, Tongji University, Shanghai 200092, China

^b CNOOC Limited – Shenzhen Branch, Shenzhen 518000, China

^c Ocean College, Zhejiang University, Zhoushan 316021, China

^d State Key Laboratory of Petroleum Resources and Prospecting, China University of Petroleum, Beijing 102249, China

* Corresponding author. Haiteng Zhuo, Ocean College, Zhejiang University, Zhoushan 316021, China. E-mail:

zhuohaiteng@hotmail.com

Abstract:

Using a combined dataset including 3D seismic volumes, 2D profiles and 127 industrial wells, this study systematically investigated sequence stratigraphy and depositional architecture of the Pearl River Delta system (PRDS) during Middle Miocene. In total, six stratigraphic sequences (SQ1 to SQ6) were recognized for the Hanjiang Formation, each of which could be further subdivided into a transgressive systems tract (TST) and a regressive systems tract (RST) according to a T-R sequence stratigraphic model. Seismic geomorphologic approaches were then conducted to interpret and map the depositional elements, including fluvial channel systems, river mouth bars, longshore bars, shelf sand ridges and shelf sand sheets. After a detailed construction of the paleogeography for each of the twelve systems tracts, it was found that the types, geometries and depositional regimes of PRDS significantly changed at ca. 13.8 Ma. Before 13.8 Ma, the PRDS were dominated by well-developed fluvial systems and an overall lobate shape, indicating a fluvial-dominated process. However, after 13.8 Ma,

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