

## **Reservoir mechanical compaction experiment of low porosity and low permeability in Bohai Basin**

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Abstract: According to the Bohai sea area of Paleogene petrological characteristics, study the influence of diagenesis on reservoir properties in this area. After data analysis, to determine the law of permeability reservoir petrologic characteristics and pore, mechanical compaction experiment of sample selection. Design and completed for the four types of the study area consists of five groups of experiments, the experimental results show that the porosity during compaction increased with depth are reduced, through data fitting, porosity with depth exponentially decreasing, and the presence of the inflection point at a certain depth, the porosity change phase is divided into slow fast compaction, compaction and basic stop compaction stage. Change of porosity and grain size, sorting, particles are selected. Distribution and separation of different particle size have great effect on the compaction effect of the experimental results, the influence of plastic granule on experimental porosity significantly, compared with the experimental results of pure rigid particle samples, porosity decreases more rapidly. Through the different sample experimental comparison, get different factors in different compaction process accounts for the proportion, the conclusion can provide reference for the reservoir exploration and development of reservoir quality research.

Key words: Bohai Basin; Paleogene; reservoir; diagenetic; compaction experiment