

Paper Number: 1119

## Sediment provenance on the northwestern shelf of South China Sea and the sedimentary model for heavy-mineral placers

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In the northern South China Sea (SCS), a series of surveys of marine resources since the 1950s have found several heavy mineral placers on the northwest shelf [1,2]. Previous studies have not clearly identified the sediment sources of the shelf sediments in the northwestern SCS. The purpose of this study is to analyze the provenance of shelf sediments in the northwestern SCS by using bulk geochemistry and single-mineral chemistry and to explain the occurrence of heavy mineral placers on the shelf. The main results obtained are as follows[3,4]: 1) Bulk geochemistry and mineral chemistry show shelf sediments on the western shelf of northwestern SCS (west of the Xiachuan island) does not confirm that sediments are mainly sourced from the Pearl River. 2) The Jian River is the most important supplier of sediments to the western shelf. 3) Heavy mineral placers sourced from the Pearl River match with placers of the “big river model”, mainly distributed in deep waters on the northwestern SCS shelf. 4) Heavy mineral placers sourced from other rivers match with placers of the “small river model”, mainly distributed in shallow waters on the northwestern SCS.

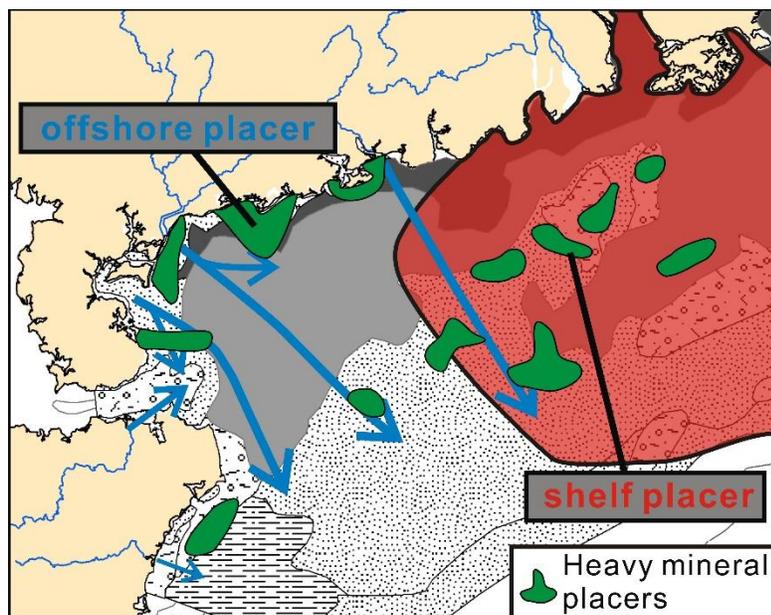


Figure 1. Schematic map showing sediment sources on the northwestern SCS shelf

*References:*

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- [2]Zhang et al. (1992) In: Quaternary littoral placer in South China: Geologic Press, 98-111
- [3] Li G.et al. (2015), Marine Geology, 363:112-124
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