

## **A Method of Pre-Stack Inversion Based on Seismic Data to Detect Hydrocarbon\***

**Guoping Zuo<sup>1</sup>, Fuliang Lv<sup>1</sup>, Guozhang Fan<sup>1</sup>, and Dali Shao<sup>1</sup>**

<sup>1</sup>PetroChina Hangzhou Research Institute of Geology, HangZhou, China

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### **Abstract**

With the development of oil and gas exploration, post-stack inversion has some uncertainty in the reservoir and hydrocarbon prediction. Some features of reservoir and hydrocarbon show on the pre-stack seismic data. Thus, pre-stack inversion can reduce the uncertainty. This paper demonstrated a new method of pre-stack elastic inversion without wells to predict reservoirs and hydrocarbon.

The study area is located at the Bay of Bengal, belonged to deepwater turbidite sedimentary environment. Based on the seismic velocity (PSTM) and Pre-stack CRP gathers, the flow chart of Pre-stack Elastic inversion unconstrained by wells is build to solve the problems of Pre-stack inversion without wells, and is applied to Predict reservoirs and hydrocarbon in the non-well areas.