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The Seismic Response Characteristics of Polyhalite with Shaded Potash Mine in Central Sichuan

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Potash deposition is the result of final phase of brine sedimentary evolution, it's a limited distribution and easily soluble mineral, it is difficult to find the features on the ground, therefore the prospecting is extremely tough.

At present, most of the world potash deposits are discovered by drilling in the process of searching for oil. Seismic methods for detecting potash are very broadly utilization abroad, such as potash mineral in Rumania, but domestic application is very few. As the main technique of exploring oil and gas, seismic exploration has the characteristics of data coverage, flexible technique, high prediction accuracy, etc. Using logging and seismic data to explore oil and potash is helpful to reduce the exploration cost and improve the prospecting precision.

Under the guidance of structural geology and sedimentology, through the precise calibration of polyhalite shared potash reservoir in central Sichuan Guang'an, the combination of Macroscopic and microscopic, geology and geophysics, reservoir and logging characteristics, the potash reservoir characteristics in actual seismic profile data, 6 categories of more than 20 kinds of typical polyhaite feature models are created (Fig. 1), seismic response models are obtained by wave

forward simulation, we analyze the seismic response and seismic attributes characteristics such as seismic amplitude, spectrum, wave impedance, absorption attenuation of the target layer, create Sichuan Triassic polyhalite potash reservoir seismic forward modeling analysis technology process to provide scientific method process and theoretical basis for potash reservoir analysis.

The research of the structural seismic data of Sichuan Guang'an indicates that using well logging data, geology data, seismic data and new methods and techniques of seismic exploration benefits the understanding of potash reservoirs. Seismic exploration method is therefore to play an important role in exploration for oil and potash.

Key words: Potash, exploration for oil and potash, seismic exploration, seismic response characteristics, seismic attribute

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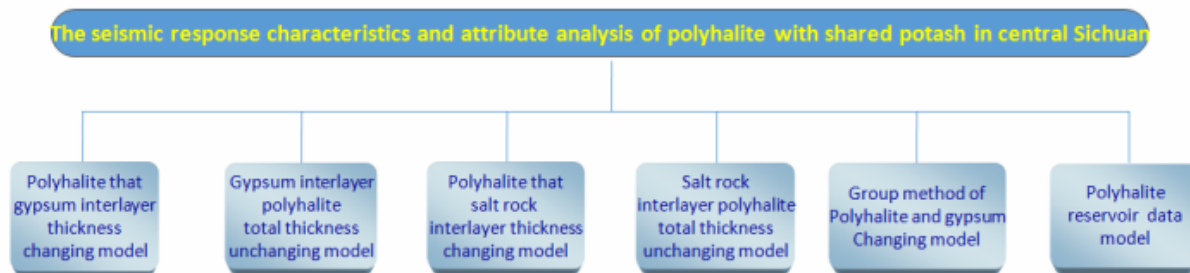


Fig. 1. Classification of polyhalite seismic response model.

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