



Glutenite bodies sequence division of the upper Es4 in northern Minfeng zone of Dongying Sag [U+FF0C] Bohai Bay Basin [U+FF0C] China

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Abstract: Glutenite bodies are widely developed in northern Minfeng zone of Dongying Sag. Their litho-electric relationship is not clear. In addition, as the conventional sequence stratigraphic research method drawbacks of involving too many subjective human factors, it has limited deepening of the regional sequence stratigraphic research. The wavelet transform technique based on logging data and the time-frequency analysis technique based on seismic data have advantages of dividing sequence stratigraphy quantitatively comparing with the conventional methods. Under the basis of the conventional sequence research method, this paper used the above techniques to divide the fourth-order sequence of the upper Es4 in northern Minfeng zone of Dongying Sag. The research shows that the wavelet transform technique based on logging data and the time-frequency analysis technique based on seismic data are essentially consistent, both of which divide sequence stratigraphy quantitatively in the frequency domain; wavelet transform technique has high resolutions. It is suitable for areas with wells. The seismic time-frequency analysis technique has wide applicability, but a low resolution. Both of the techniques should be combined; the upper Es4 in northern Minfeng zone of Dongying Sag is a complete set of third-order sequence, which can be further subdivided into 5 fourth-order sequences that has the depositional characteristics of fine-upward sequence in granularity.

Key words: Dongying sag, northern Minfeng zone, wavelet transform technique, time-frequency analysis technique ,the upper Es4, sequence stratigraphy