عنوان مقاله:

Maximizing of the coverage and quality in micro resistivity image log by applying minimum weighted norm interpolation and anisotropic diffusion filter

محل انتشار:

تعداد صفحات اصل مقاله: 7

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خلاصه مقاله:

The micro-resistivity imaging log is a crucial tool for measuring the heterogeneous features of a formation. It objectively and quantitatively describes various reservoir characteristics, including fine structures, thin strata, fissures, and sedimentary facies. In these imaging tools, measurements from button arrays create an electrical image of the wellbore. However, gaps between tool pads limit coverage, and damaged buttons may compromise image quality.In this study, we examine image log data for factors impacting data acquisition, followed by processing for basic correction, image enhancement, and static and dynamic image log creation. To achieve ۱۰۰% coverage, the Minimum Weighted Norm Interpolation (MWNI) algorithm fills gaps between tool pads. Finally, the Anisotropic Diffusion Filter (ADF) reduces noise and enhances image log quality in MATLAB, providing a comprehensive image from logging tools. As image logs play a crucial role in illustrating the wellbore and reservoir, this study suggests a new workflow to successfully tackle the challenges linked with acquiring comprehensive image log coverage.

کلمات کلیدی:

Micro resistivity imaging log, Formation features, Minimum Weighted Norm Interpolation, Anisotropic Diffusion Filter

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