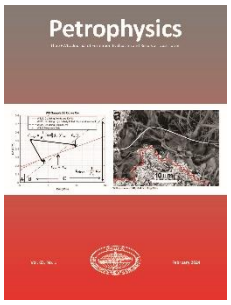

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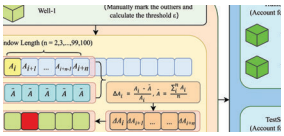
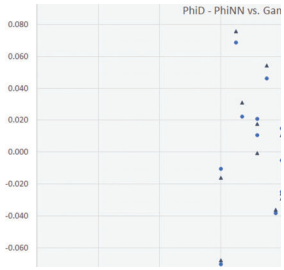


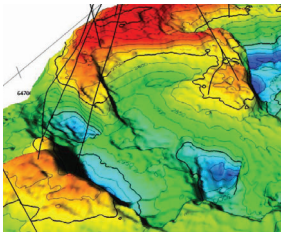
Cai et al. **PAGES 128–144**

The paper proposes an RF-CNN-LSTM fusion model based on the DTW algorithm to construct intelligent prediction models for elastic modulus, Poisson's ratio, and compressive strength using real-time drilling engineering data.



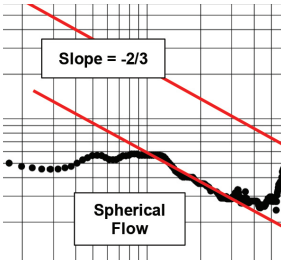
Etnyre **PAGES 70–94**

This paper provides new information that shows that the usefulness of any least squares result cannot be guaranteed by conventional statistics (such as R-squared, F-statistic, or standard error of the regression, and sigma). A new method based on the singular value decomposition (SVD) of a matrix when accompanied by a Relative Error Bound (REB) on the estimated parameters provides the user with a tool that can better assess the usefulness of any least squares result. Another important aspect of the REB is that it provides the user of the SVD method with a powerful tool for judging which is the best among several candidate solutions.



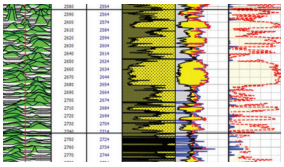
Fu et al. **PAGES 108–127**

This paper presents a comprehensive overview of a machine-learning contest aimed at developing data-driven models for estimating reservoir properties from well logs. This contest, hosted by the SPWLA Petrophysical Data-Driven Analytics Special Interest Group, encouraged participants to create models that predict shale volume, porosity, and fluid saturation from a given set of well logs. The paper details the methodologies, data preprocessing techniques, and machine-learning models used by the top-performing teams, highlighting their advantages and specific application conditions.



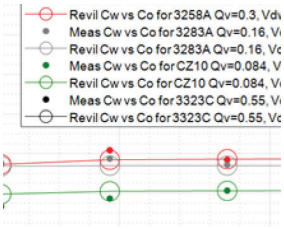
Gelvez and Torres-Verdín **PAGES 32–50**

The authors developed a new interpretation method to relate fluid contamination measurements (acquired with a borehole formation tester) with near-wellbore fluid-transport properties of rocks by identifying early- and late-time flow regimes in fluid contamination and its time derivative function. Referred to as contamination transient analysis, the new method evaluates transient measurements acquired during cleanup of mud-filtrate invasion to infer relevant reservoir flow conditions. It is an alternative to improve fluid cleanup efficiency and to detect the spatial complexity of the reservoir during real-time downhole fluid sampling.



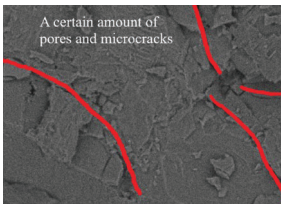
Kumar and Lauderdale-Smith **PAGES 51–69**

This paper aims to discuss the petrophysical considerations that need to be made for compliance with the CO_2 Storage Resources Management System (SRMS), highlights key differences between the SRMS and the Petroleum Resources Management System (PRMS), and discusses what practicing petrophysicists must consider when undertaking quantification of storage capacity for CO_2 projects.



Rasmus et al. **PAGES 5–31**

In this detailed review of the seminal Waxman-Smits and Dual Water papers, we reveal the primary flaws in the theories and assumptions that form the basis for these models and offer our remedies. This requires a more complete understanding of electrical current flow, electrochemistry, the effect of salinity on the diffuse layer, the paradox of decreasing equivalent molar conductivities with decreasing salinity, and the effect of clay on cementation exponent, all of which are discussed in this review.



Yu et al. **PAGES 95–107**

In this study, granite's porosity decreases logarithmically within one to three high-temperature cycles, transitioning to a linear relationship with P-wave velocity after five to 10 cycles. Using wave velocity measurements and scanning electron microscope (SEM) at 450°C, the authors nondestructively estimate granite's porosity and cracks, guiding research on rock property deterioration during deep geothermal extraction.