Naturally fractured reservoir characterization

Advanced workflows for discrete fracture network modeling

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Propositions

accompanying the dissertation

NATURALLY FRACTURED RESERVOIR CHARACTERIZATION
ADVANCED WORKFLOWS FOR DISCRETE FRACTURE NETWORK MODELING

by

Rahul PRABHAKARAN

1. Digital outcrop models in the Geosciences are of growing relevance as they bring data-driven insights to support interpretations.
2. Interpretation is often more art than science, driving implicit beauty into the hypotheses they conjoin. Bias is a fellow traveller. (Chapter 2 of this thesis).
3. The use of automatic algorithms in fracture trace interpretation both simplifies and de-biases the interpretative task of a geologist (Chapter 2 of this thesis).
4. Treating fracture networks as spatial graphs is advantageous over conventional approaches of considering fractures as objects in space (Chapter 3 of this thesis).
5. The basic premise of a network being more than the sum of its parts overrules attempts in quantifying fracture network heterogeneity through sparse sampling (Chapter 4 of this thesis).
6. The uselessness of potentially useful data and the usefulness of seemingly useless data are both often underestimated.
7. Solving the energy demand equitably and sustainably is one of humanity's most significant challenges.
8. The global pandemic of 2020 and its effect reinforces both fragility and fortitude of the human species.
9. The solutions to scientific challenges facing humankind require increasingly multidisciplinary approaches. Educational systems across the world need to adapt to this reality.
10. Perhaps the most important skills an individual can acquire are learning to learn and adaption to uncertain environments.

These propositions are regarded as opposable and defendable, and have been approved as such by the promotors prof. dr. G. Bertotti and prof. dr. ir. D.M.J. Smeulders.