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Tracer-assisted characterization of geo-reservoirs: solutions and problems

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Two situations are described in which heat transport prediction in geo-reservoirs gets misled by tracer-based estimations of transport parameters. In situation A, fluid residence times derived from inter-well tracer tests lead to an overestimation of thermal breakthrough time. In situation B, fracture densities derived from single-well or inter-well tracer tests lead to an underestimation of geo-reservoir lifetime. There are, on the other hand, important aspects of geo-reservoir behavior (C) rendering tracer tests indispensable for their characterization.

Field examples are shown of C occurring together with A or with B.

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