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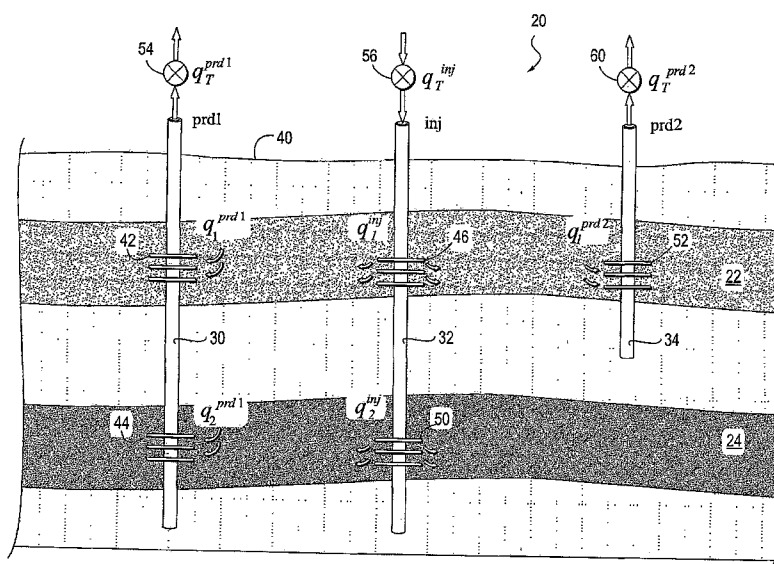
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(54) Title: METHOD FOR FIELD SCALE PRODUCTION OPTIMIZATION



(57) Abstract: A method for enhancing the allocation of fluid flow rates among a plurality of well bores in fluid communication with at least one subterranean reservoir is disclosed (24). An objective function and system equations are generated which utilize constraint violation penalties associated with soft constraints. The soft constraints are constraints which may be violated if necessary to arrive at a feasible solution to optimizing the objective function and the system equations. The fluid flow rates are then allocated among the well bores (30) as determined by the optimizing of the objective function and system equations. Fluid flow rates among well bores (30), particularly those exhibiting similar fluid characteristics, may be related to one another. Initial flow rates of components (oil, gas, and water) and pressures in the well bores (30) may be determined by an initial simulation run.

WO 2007/058662 A1