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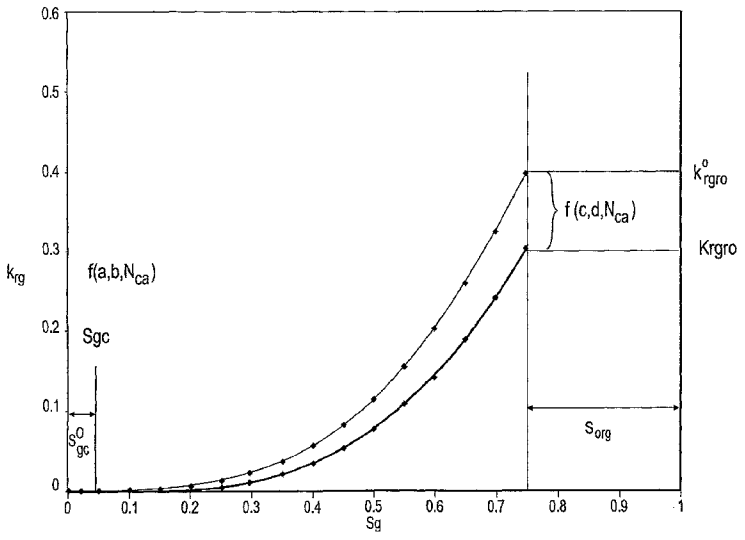
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(54) **Title:** METHOD, SYSTEM AND PROGRAM STORAGE DEVICE FOR RESERVOIR SIMULATION UTILIZING HEAVY OIL SOLUTION GAS DRIVE



(57) **Abstract:** A method a system and a program storage device for predicting a property of a fluid from a subterranean reservoir containing heavy oil entrained with gas The methoo includes developing a baseline correlation between gas relative permeability k(rg) and gas saturation S(g), and capillary number N(c) calculated from a plurality of cells and at least one of critical gas saturation S(gc) and gas relative permeability k(rgro) based upon plurality of depletion rates The baseline correlation is then adjusted to comport with at least one of S(gc) and k(rgro) to produce a plurality of corresponding adjusted baseline correlations where gas relative permeabilities k(rg) are selected A reservoir simulation is then run utilizing the selected relative permeabilities k(rg) to predict a property of at least one fluid

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