NOTES ON

PROGRAM RUNS, DATA PREPARATION, AND SIMULATION RESULTS OF SINGLE-PHASE PROBLEMS

1. Simulation runs were executed using Dell Latitude D630 Laptop with IntelR CoreTM Duo CPU, T7300 @2.00GHz, 777MHz, 1GB of RAM.
2. In the preparation of a data file to simulate a given reservoir (or problem), it is preferable and recommended to set to zero the value of any item of data that does not belong to the problem.
3. Data files prepared for single-phase simulation must have dummy but consistent relative permeability data as those shown in single-phase data files.
4. To simulate single-phase water reservoir, the water formation-volume-factor must show dependence on pressure. The following equation can be used to generate such dependence,

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1. It should be noted that the simulation results of single-phase reservoirs generated by the present simulator (mpsffav1-16) are in perfect match with the results generated by the single-phase simulator published by Abou-Kassem, Farouq Ali, and Islam (2006). The results reported in the mentioned textbook; however, were obtained by assuming fluid transmissibility being independent of variations in formation-volume-factor (B) and viscosity (µ) with pressure. The results generated by the present simulator take that dependence into account. Therefore, to generate simulation results with such dependence, the single-phase simulator must be run with the option MBCONST = 2 in DATA 24B.