This is a simulation of a reservoir that has a primary gas cap and edge water drive. There were 33 wells drilled in this reservoir that were put on production, after being completed, at different times. Primary production in the first 15 years resulted in the development of a secondary gas cap. Production data for the first 15 years were available. History matching was performed to match production data. The performed history matching produced the reservoir description and relative permeability data entered in the present data file. A student was asked to optimize the oil recovery from this reservoir by initiating peripheral water injection starting after the primary production period and report the results every five years up to 50 years. A maximum of seven wells can be used to inject water- four converted wells and three new drilled wells.

The user is advised to run the simulator for the data file (reservoir-aaa.txt). The PVT data, the history matched reservoir description and relative permeability data, and the reservoir performance at different times can be examined by running the MATLAB post-processor.