

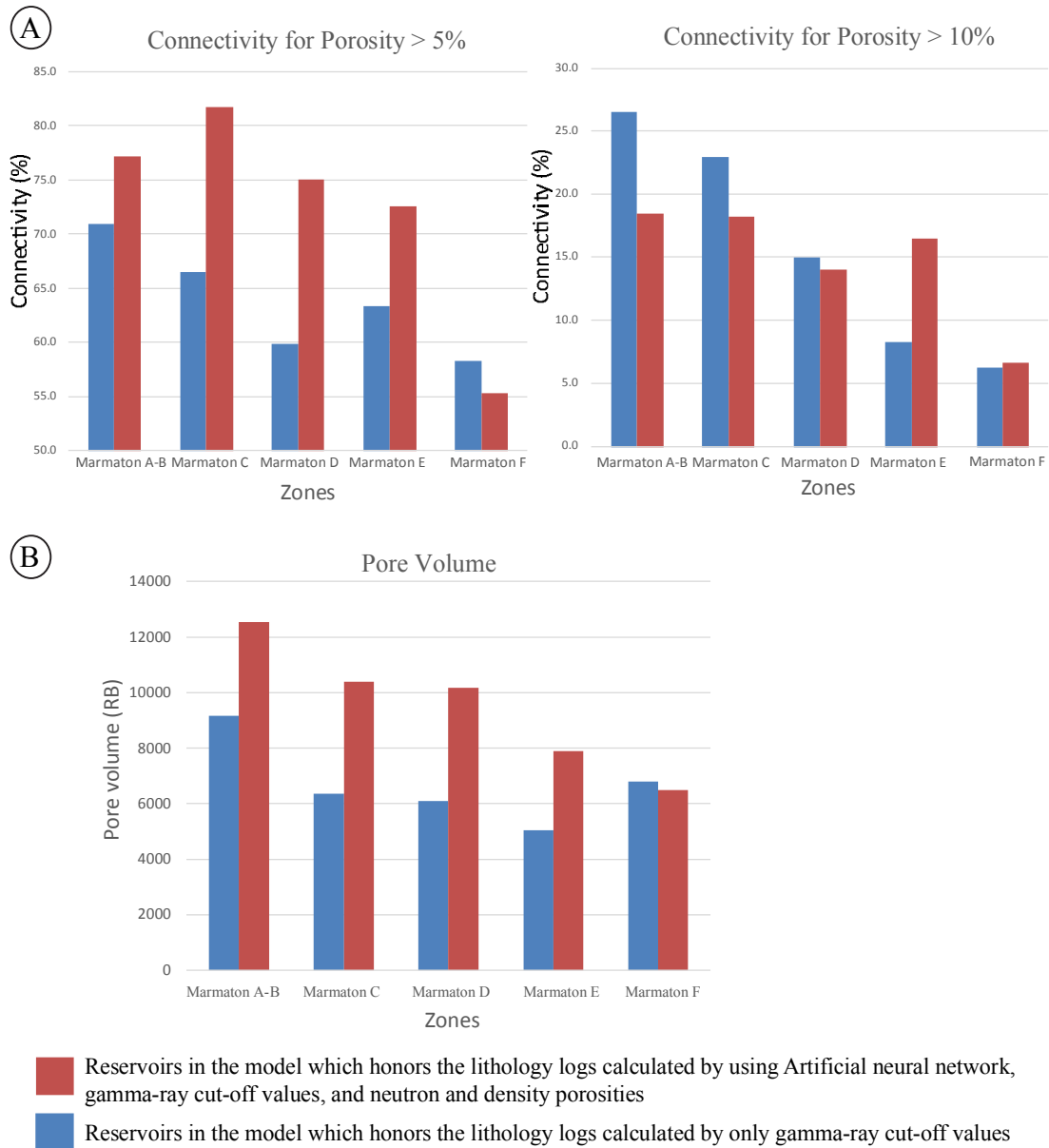


Figure M-5. Histograms showing A) the connectivity, and B) pore volume for lithology model honoring lithology logs estimated by using only gamma-ray cut-off values (blue), and lithology model honoring lithology logs created by using Artificial Neural Network, gamma-ray cut-off values, and porosity separation and cross-over (red). 5% and 10% total porosity cut-off were used as constraints to connectivity. For the reservoirs with greater than 5% porosity, and the model with the neural network estimation has greater connectivity except Marmaton F interval. Connectivity falls dramatically when the porosity filter is increased to 10%. The amount of pore volume in the model with the neural network estimation is greater than the pore volume in the model with only gamma-ray cut-off value estimation for all zones except Marmaton F interval. Closer amount of pore volume in the Marmaton F interval can be the result of closer estimation of reservoirs with two different methods.