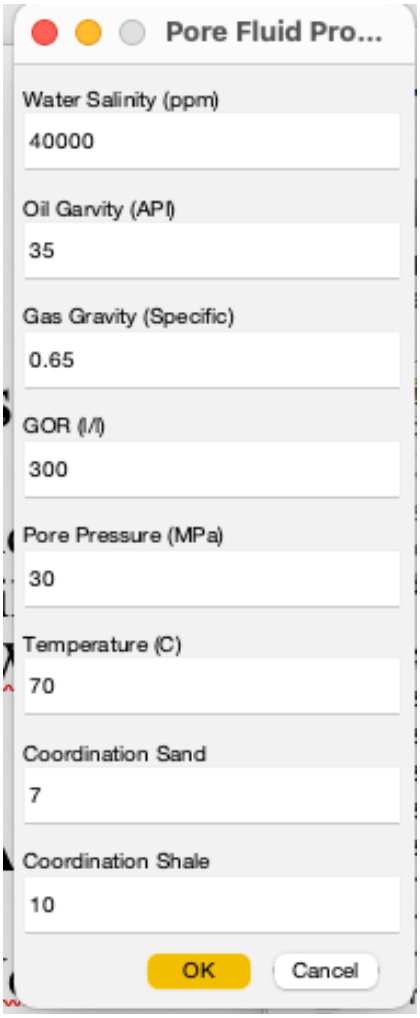
Fluid Substitution Files

FluidSubstitutionMathWorks.docx and FluidSubstitutionMathWorks.pdf are manuals for the fluid substitution workflow. The MatLab files to be used are Fluid2FluidBGassmann.m; FluidMixture.m; and FluidSubGassmMathWorks.m. Their usage is described in the abovementioned manuals.

Applet Files

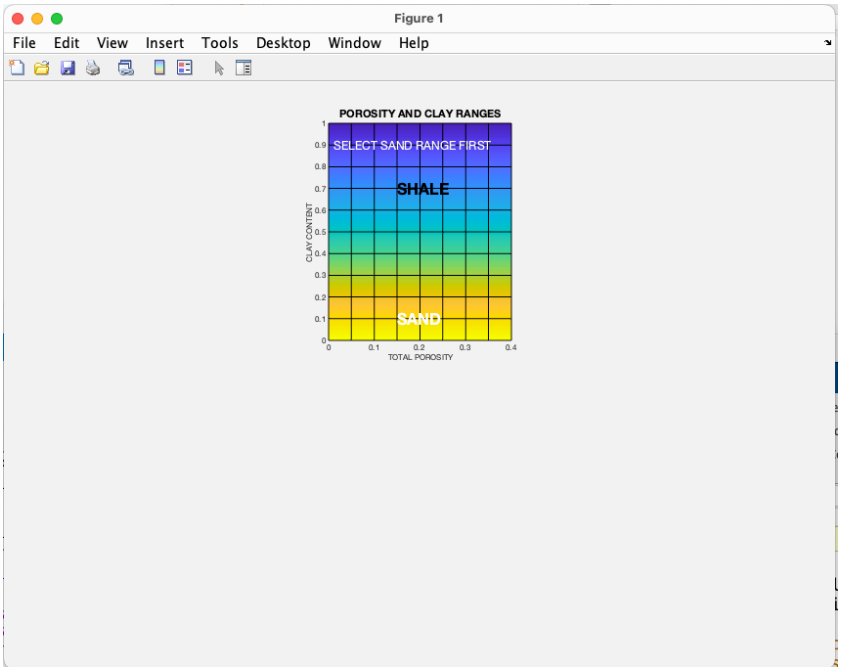
ModelAvoUncertainty2024b.m; SoftSandNew.m; BatzleWangNew.m; and AVOZoeppritzNew.m. The manual to using this applet is below.

Step 1. In Matlab command line type ModelAvoUncertainty2024b. A dialogue window appears:



Step 2. Type in fluid properties and conditions, as well as Coordination Numbers for sand and shale. The higher the coordination number the stiffer the sediment. You can use the default numbers as well. Once done with this task, click "OK."

Step 3. A new panel appears with a rectangle showing the clay content versus porosity axes. By dragging the cursor from top left to bottom right select first the clay content and porosity rectangle for the sand and then, separately, for the shale.



Step 4. Once these ranges are selected, additional plots appear in this panel showing the AVO response at the shale-sand interface and the corresponding gradient versus intercept plot based on this response.