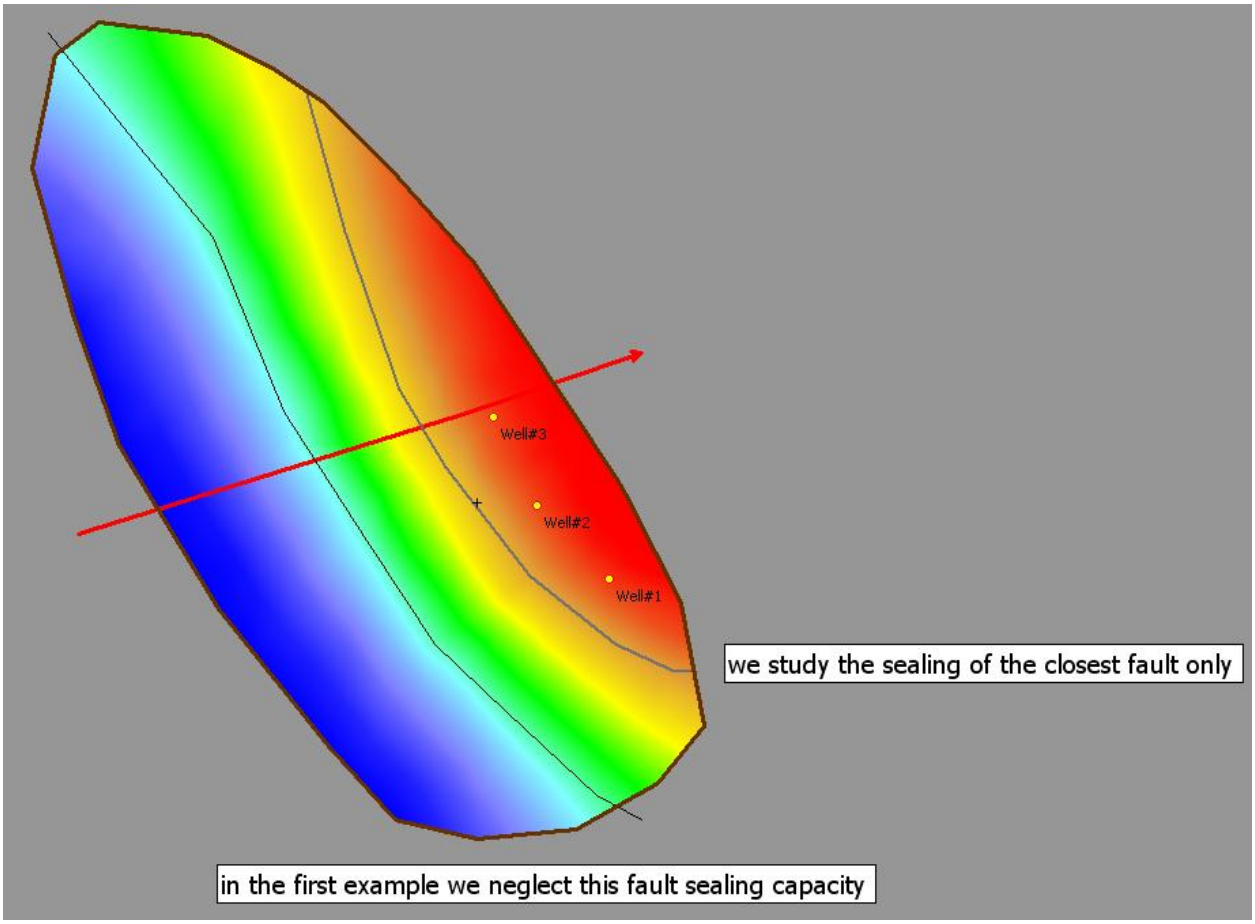
Connected gas tanks reservoirs

A • Exercise objective

- The use of Rubis to match depletion of multiple material balance tank

B • Two tanks separated by one fault



We have a dry gas reservoir and for this example, we consider that the furthest fault is inactive and that only the nearest fault has a role in reservoir connectivity. The tank structure is of sufficient simplicity to be considered a multiple material balance tank exercise.

3 gas wells are producing for 10 years from 2010 to 2020. After averaging production data, it amounts for each well to about a plateau of 5000 mscf/d for $3^{1/2}$ years and then the rate decline progressively until end of field life.

We have some PBHP measures for well #1 and we would like to use them to match the fault connectivity between the two reservoir zones.

The reservoir structure and well data are already prepared for run. Check that all is consistent. We only need downhole pressure as output for wells, and for global result, we would like Paverage, surface rate, cumulative, STGIP, Recovery Factor.

The file is **gastankleakage_onefaultcase.kr5.**

By trying multiple sealing factors on the closest fault, try to find the best match for well#1 data. What value do you get? Compare the results. *(To simplify the process, create first run, then duplicate the case and change the leakage value of the fault in 2d map tab).*

C ● Three tanks separated by two faults

Actually there was an error in the PBHP history and we have received the new history where support is stronger towards the end of field life, which could be due to a late time charge.

File is **gastankleakage_2faultcasev2.kr5.**

We suspect that to match this behaviour we might need to consider the furthest fault to be sealing to a certain degree as well, and we have to rematch the model.

Perform the same exercise, but this time with both faults.