(a) Rate-constrained scenario.

(b) Rate-constrained scenario.

Figure 12: The farthest pulse of the pressure build-up distance from the injection point for all cases in the rate-constrained scenario.

(a) Pressure-constrained scenario.
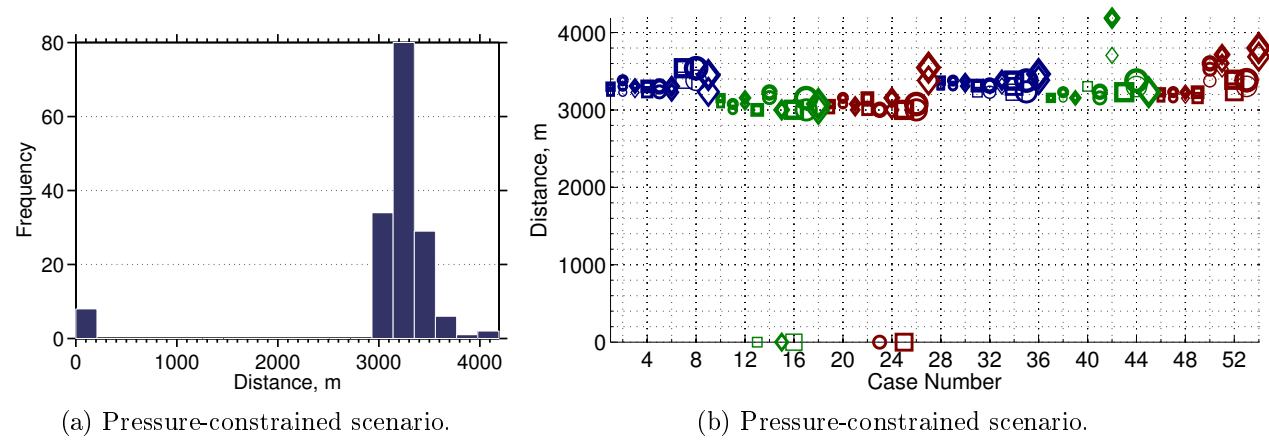

(b) Pressure-constrained scenario.

Figure 13: The farthest pulse of the pressure build-up distance from the injection point for all cases in the pressure-constrained scenario.

faults around the injector make a larger build-up region, because they cause higher pressure build-up in the domain. In these cases, the effect of heterogeneity of different scales, namely on the scale of near injector and far from injector, are combined causing a larger buildup fraction.

4.5   Farthest pulse

As discussed earlier, irregular geometries like faults and unconformities can lead to pressure spread in the domain. Looking at the volume fraction of pressurized and buildup regions helps in comparing cases for their pressure conductivity, but it does not show the extent of pressure spread in the medium. For that reason, we also look at the farthest cell from the injection point that falls within the buildup region defined earlier.

Figures 12 and 13 show the farthest pressure build-up distances from the injector in