During MEOR within sandstone core under varying temperature, salinity and pH conditions, using Microbe 3, $d_x = 2.88 \times 10^{-2}$ h$^{-1}$, $t_{\text{pulse}} = 57.6$ h and $k_{\text{a}}/k_{\text{d}} = 6.40$; (a) spatial distribution of oil/water interfacial tension (IFT, mN m$^{-1}$) at $t = 200$ h; (b) variations of oil and water viscosities (N s m$^{-2}$) with increasing in-Situ temperature from 40 °C to 55 °C, when specific gravity of crude oil ($\gamma_{\text{API}}$) is maintained at 40 °API; (c) variation of residual oil saturation ($S_{\text{or}}$) with increase in trapping number ($N_T$) before microbial flooding and at $t = 200$ h after microbial flooding; (d) variations of oil and water relative permeabilities ($k_{\text{ro}}$ and $k_{\text{rw}}$) with water saturation ($S_w$) before microbial flooding and at $t = 200$ h after microbial flooding; (e) variation of fractional flow of water ($f_w$) with $S_w$ before microbial flooding and at $t = 0.3$ h, 0.8 h, 2 h and 600 h after microbial flooding, while using $\gamma_{\text{API}} = 40$ °API; and (f) variation of $f_w$ with $S_w$ before microbial flooding and at $t = 200$ h after microbial flooding while using $\gamma_{\text{API}}$ values of 29 °API, 35 °API and 40 °API.