Quantity	Symbol	Value	Unit
Average mass flow rate of oil	$\dot{m}$	100	kgs^{-1}
Distance from capping stack to reservoir	H	4,004	m
Thermal conductivity of the rock and fluids	κ_s	0.7[185]-2.9[186] Base case 1.3	$Wm^{-1}K^{-1}$
Thermal conductivity of cement	κ_c	0.29[187]	$Wm^{-1}K^{-1}$
Thermal conductivity of oil	κ_o	0.137	$Wm^{-1}K^{-1}$
Porosity of sediment	ϕ	0.30	
Heat capacity of seawater	C_w	3,990[188]	$Jkg^{-1}K^{-1}$
Heat capacity of oil	C_o	2,000[189]	$Jkg^{-1}K^{-1}$
Heat capacity of sediment (sand or sandstone)	C_s	745	$Jkg^{-1}K^{-1}$
Heat capacity of cement	C_c	1,550[190]	$Jkg^{-1}K^{-1}$
Density of seawater	ρ_w	1,027	kgm^{-3}
Density of cement slurry	ρ_c	2,500	kgm^{-3}
Grain density (quartz)	ρ_s	2,660	kgm^{-3}
Reservoir temperature	T_r	243	°F
Initial temperature	T_o	40	°F
Well-bore radius	r_w	0.10795	m
Maximum well radius	r_m	0.46	m
Base case thermal diffusivity, Eq. (B.7)	$1/\alpha_T$	4.97×10^{-7}	m^2s^{-1}
Thermal diffusivity of (stainless) steel[191]	$1/\alpha_T$	4.1×10^{-6}	m^2s^{-1}
Thermal diffusivity of cement and oil[192]	$1/\alpha_T$	7.5×10^{-8}	m^2s^{-1}
Annular thermal diffusivity[193]	$1/\alpha_T$	16×10^{-8}	m^2s^{-1}

Table B.2. Parameters used for my calculation of well-bore cooling.