

Reference case:

Working fluid: water

Horizontal well – 1000 m horizontal section

Casings (similar to Balmatt):

0 – 900 m: ID 17.755 inch

900 – 3690 m: vertical section in salt ID 12.347 inch

3690 – 4212 m: deviated section in salt ID 12.347 inch

4212 m: 1000 m horizontal section ID 8.535 inch

Injection temp.: 35 °C

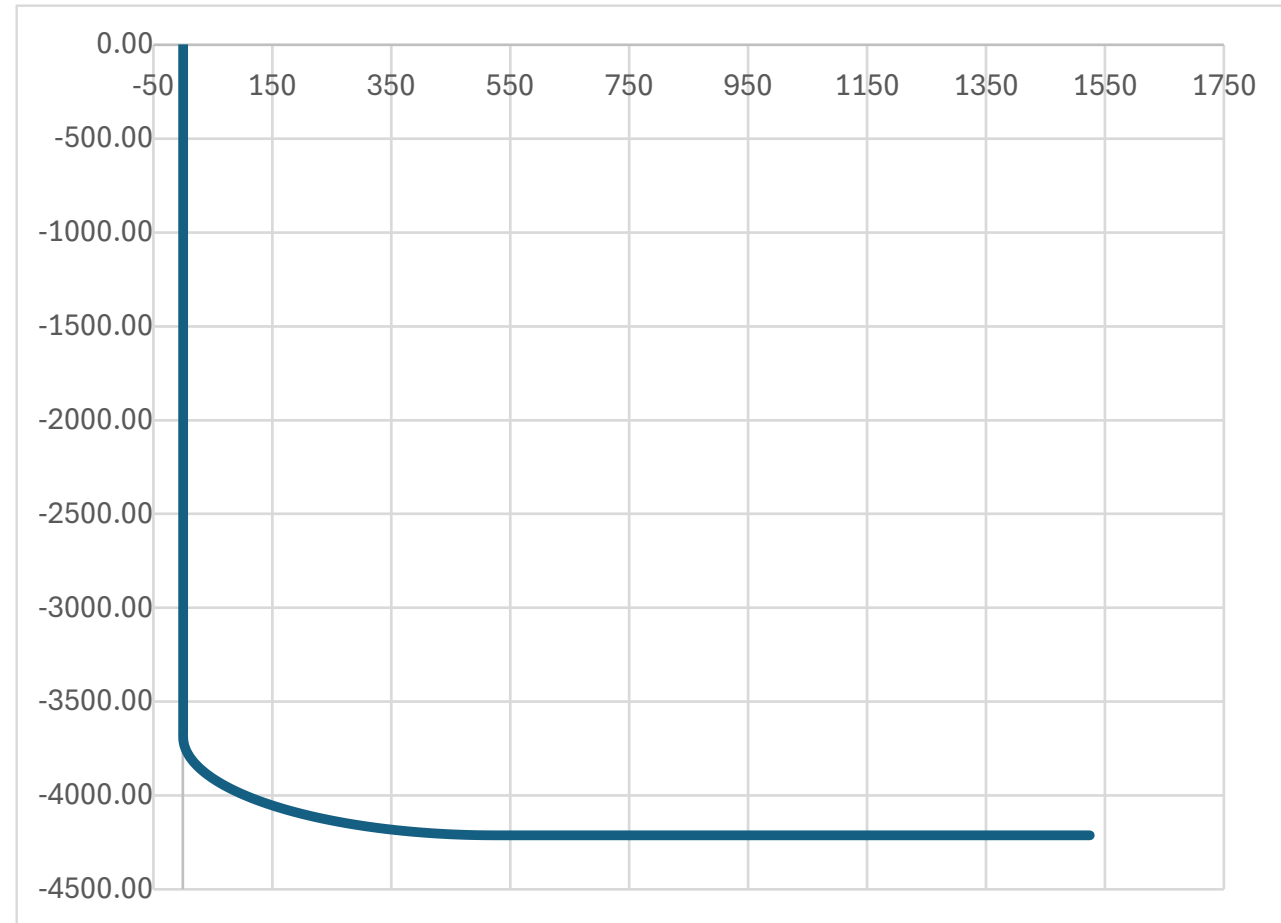
Injection press.: 0.1 MPa

Rate:

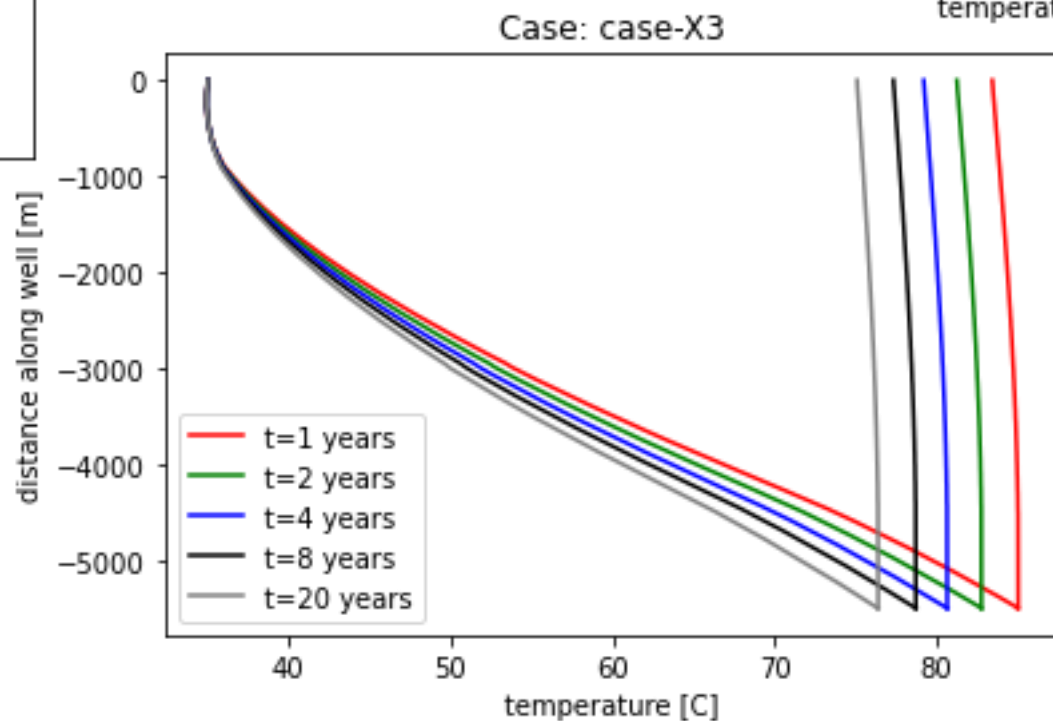
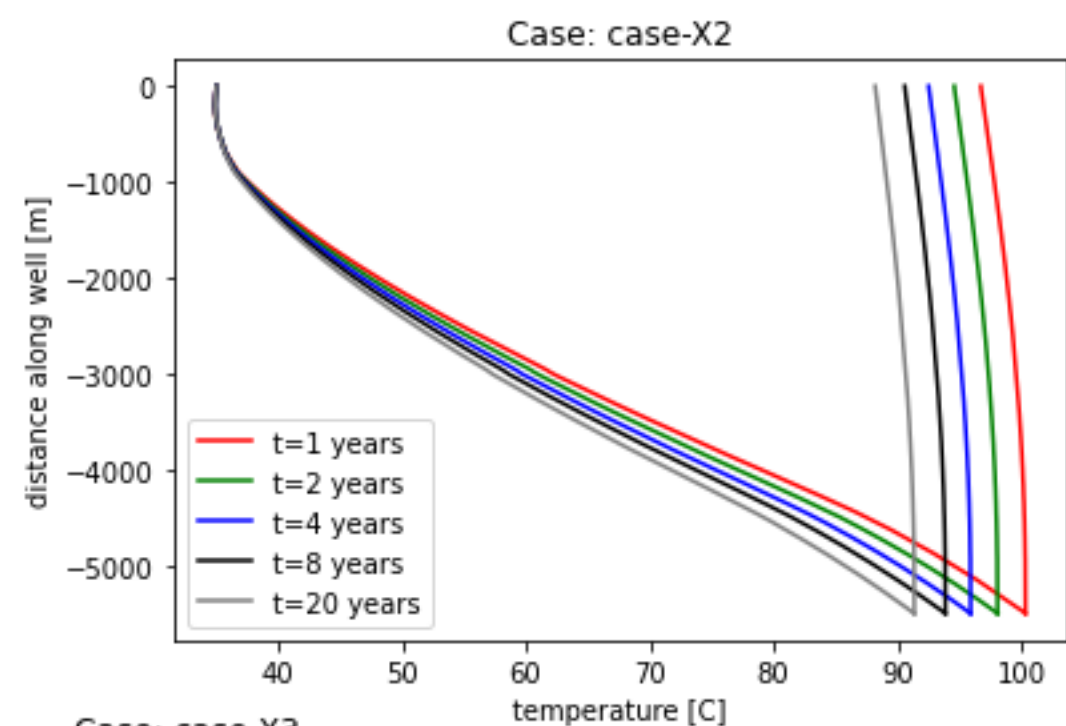
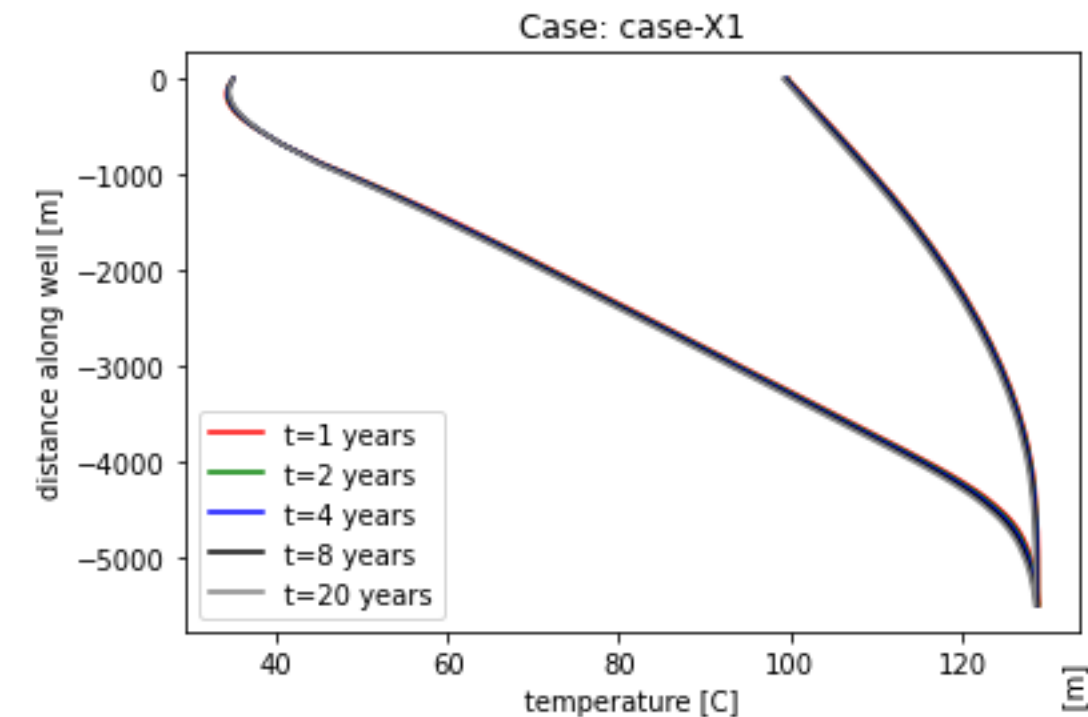
Case 1: 0.5 kg/s

Case 2: 5.0 kg/s

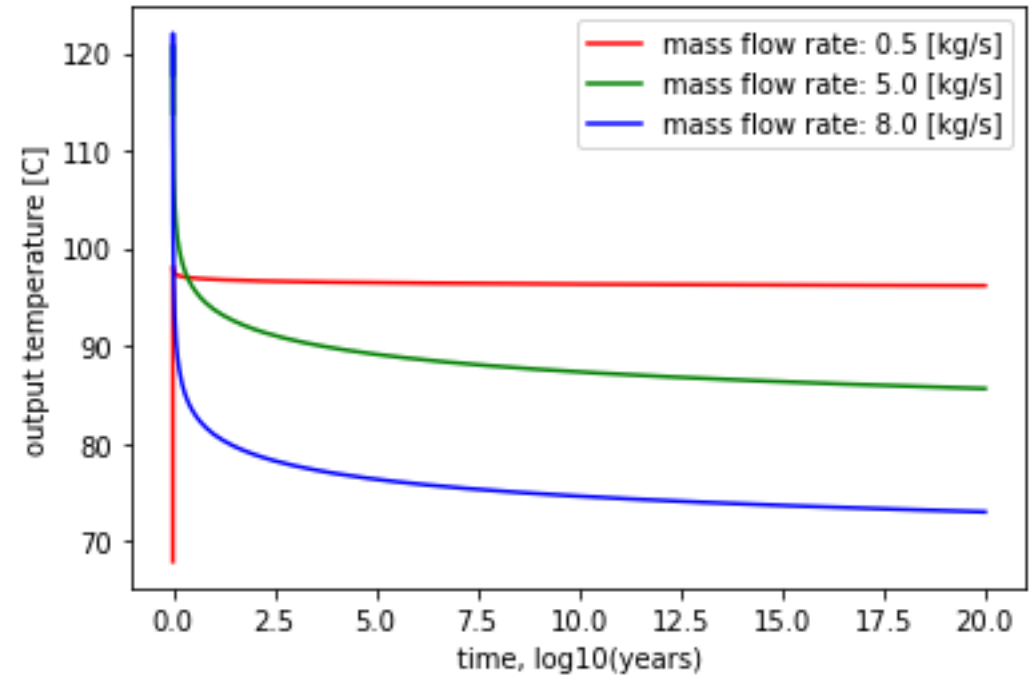
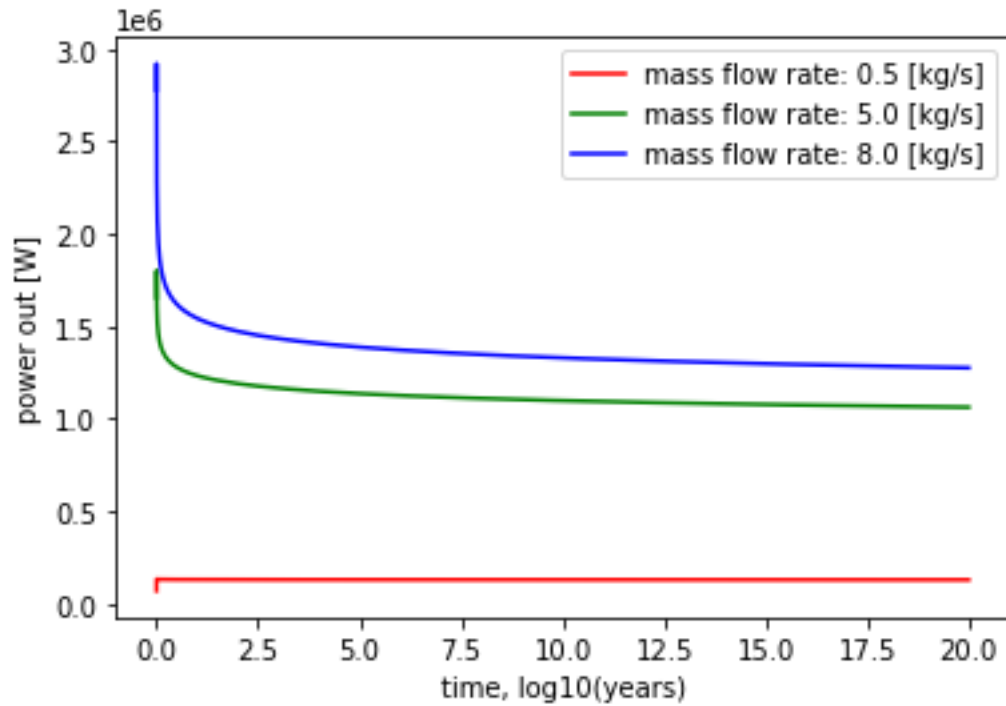
Case 1: 8.0 kg/s



Horizontal well: 1000 m - water



Horizontal well: 1000 m - water



CO₂ – casings with liners

Horizontal well – 1000 m horizontal section

Casings (similar to Balmatt):

0 – 900 m: ID 17.755 inch

900 – 3690 m: vertical section in salt ID 12.347 inch

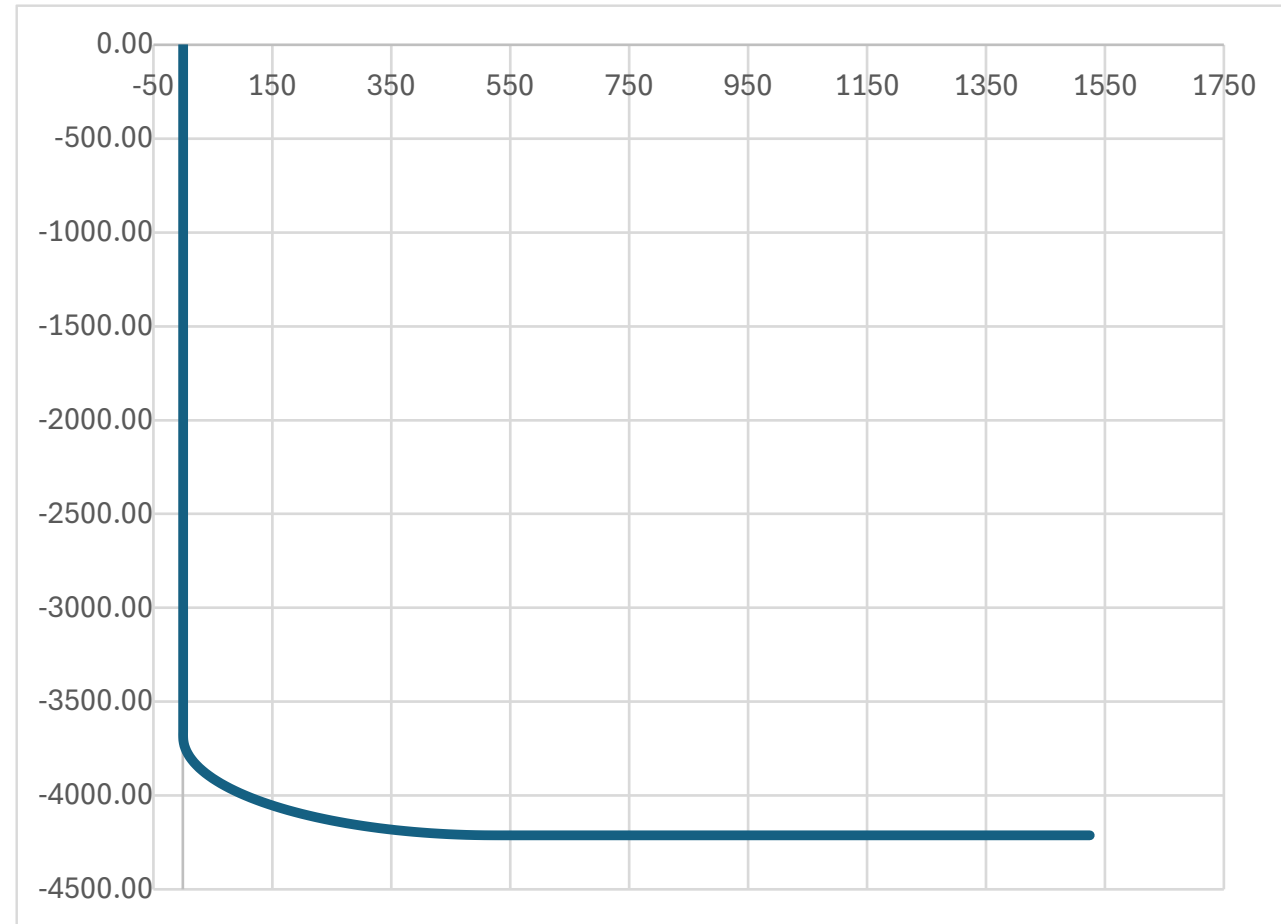
3690 – 4212 m: deviated section in salt ID 12.347 inch

4212 m: 1000 m horizontal section ID 8.535 inch

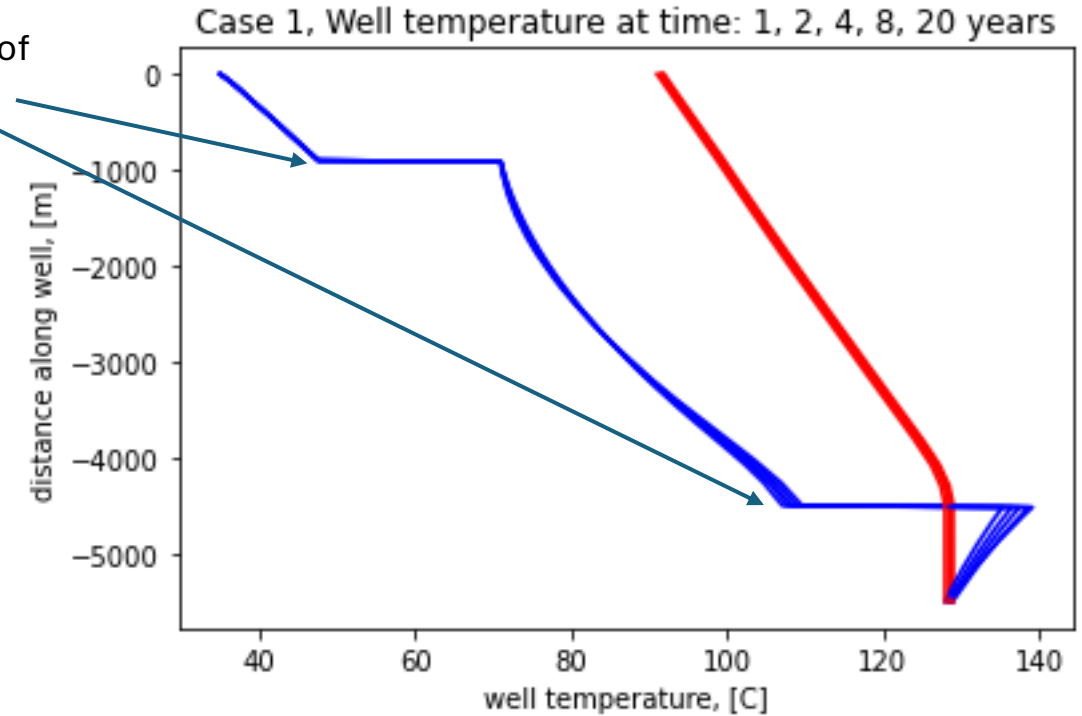
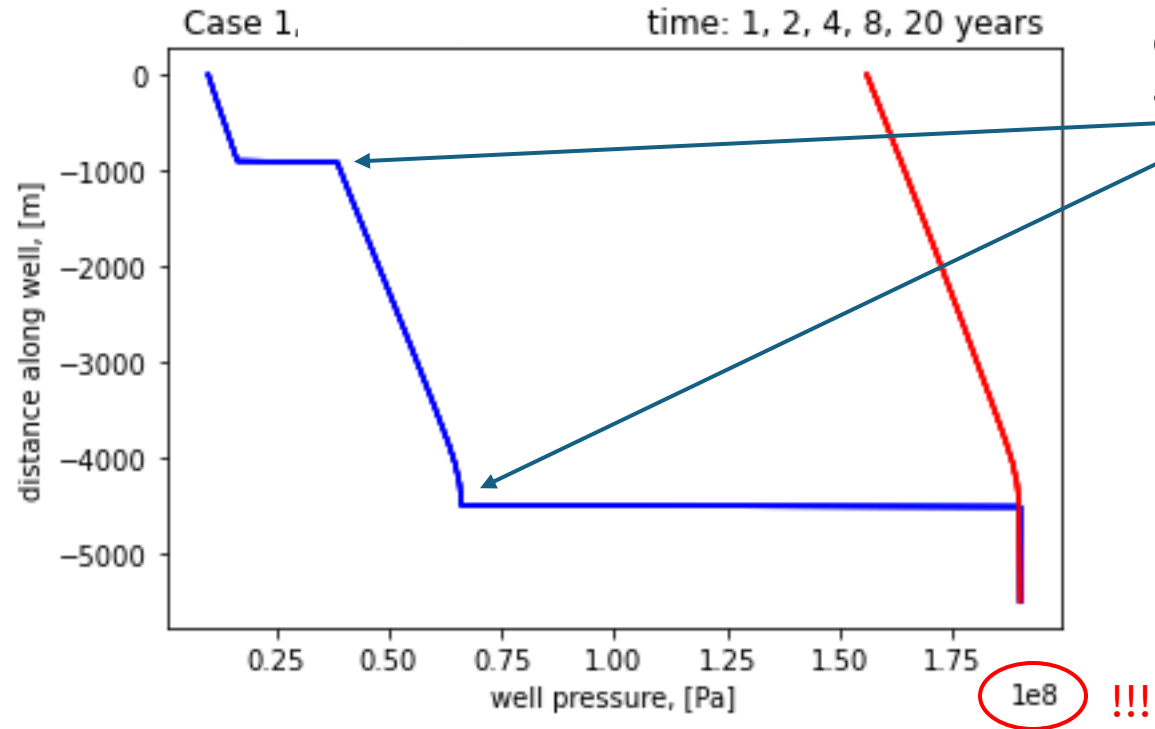
Injection temp.: 35 °C

Injection press.: 10 MPa

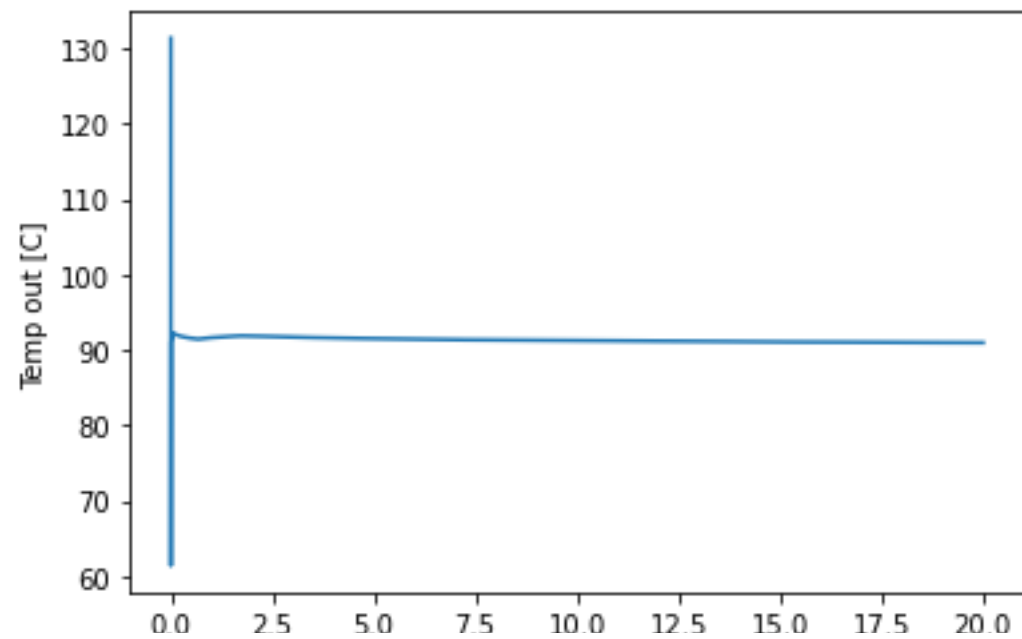
Rate: 10 kg/s



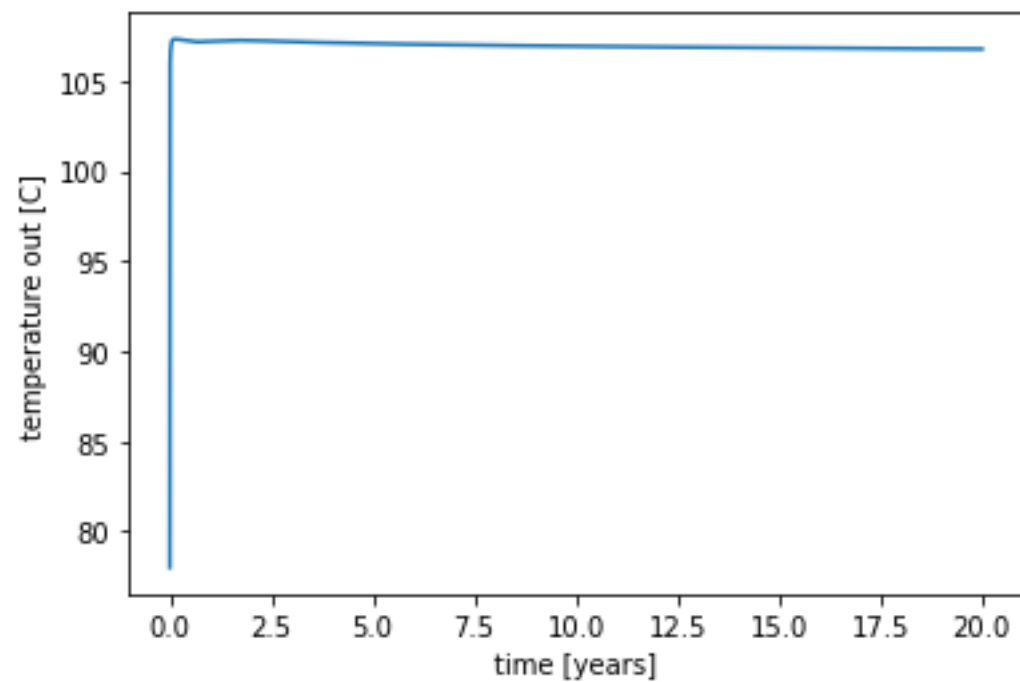
CO2 – casings with liners



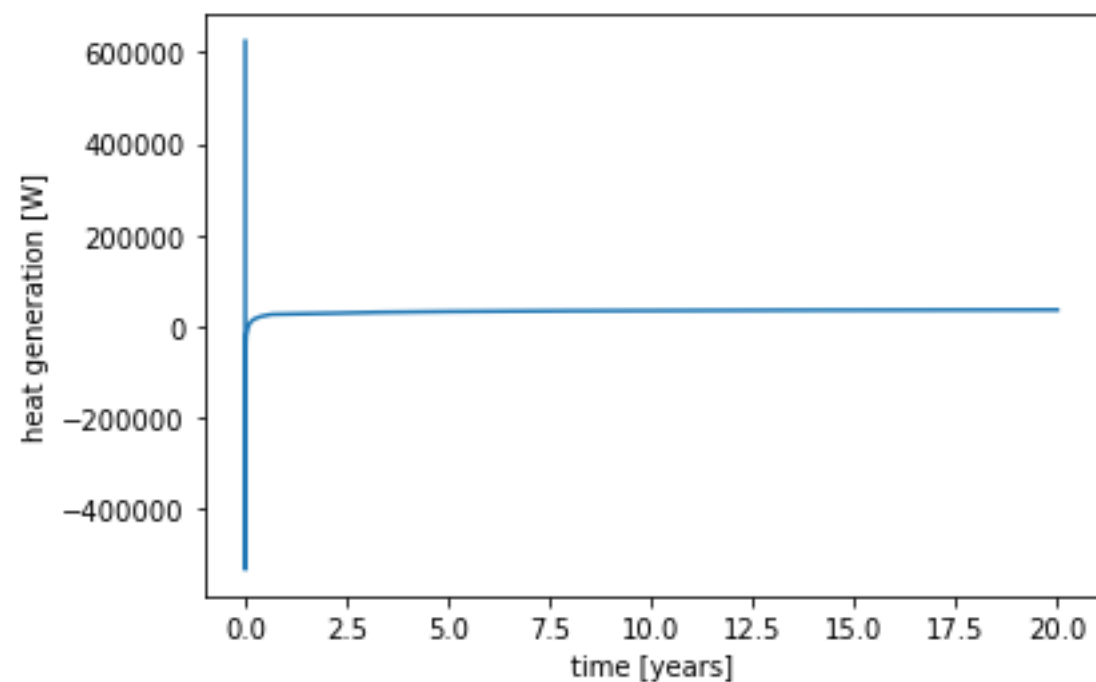
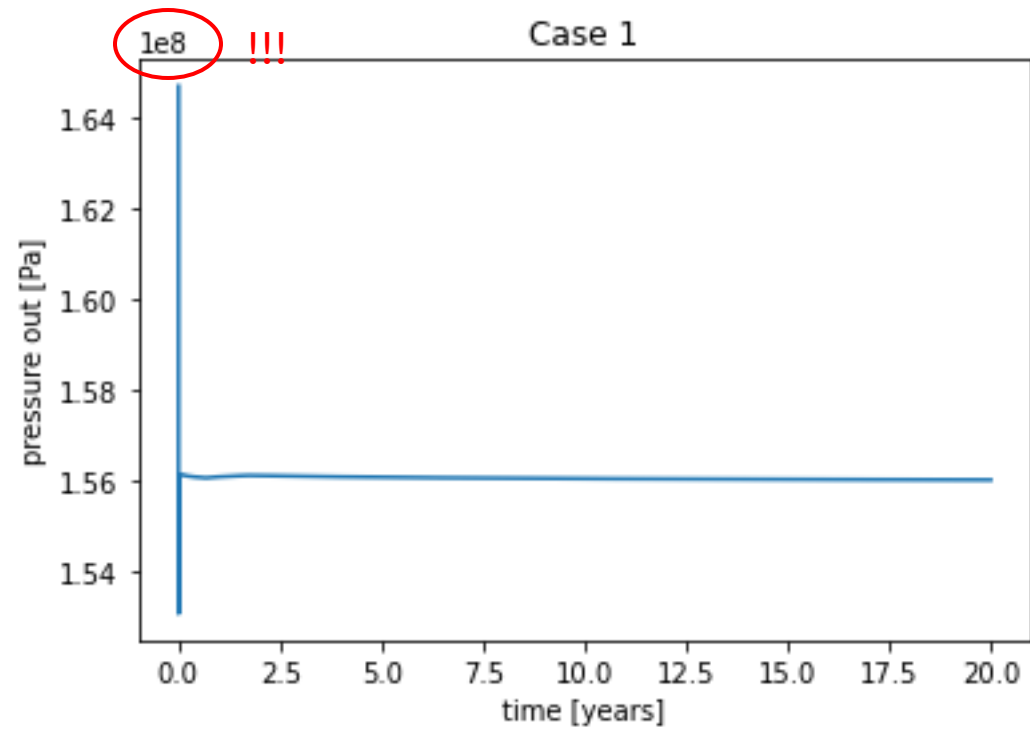
Case 1



Case 1



Case 1



CO₂ – the same diameter throughout the well

Horizontal well – 1000 m horizontal section

Casings:

Constant delta annular (0.0868 m) as for casings ID12.347 inch

Injection temp.: 35 °C

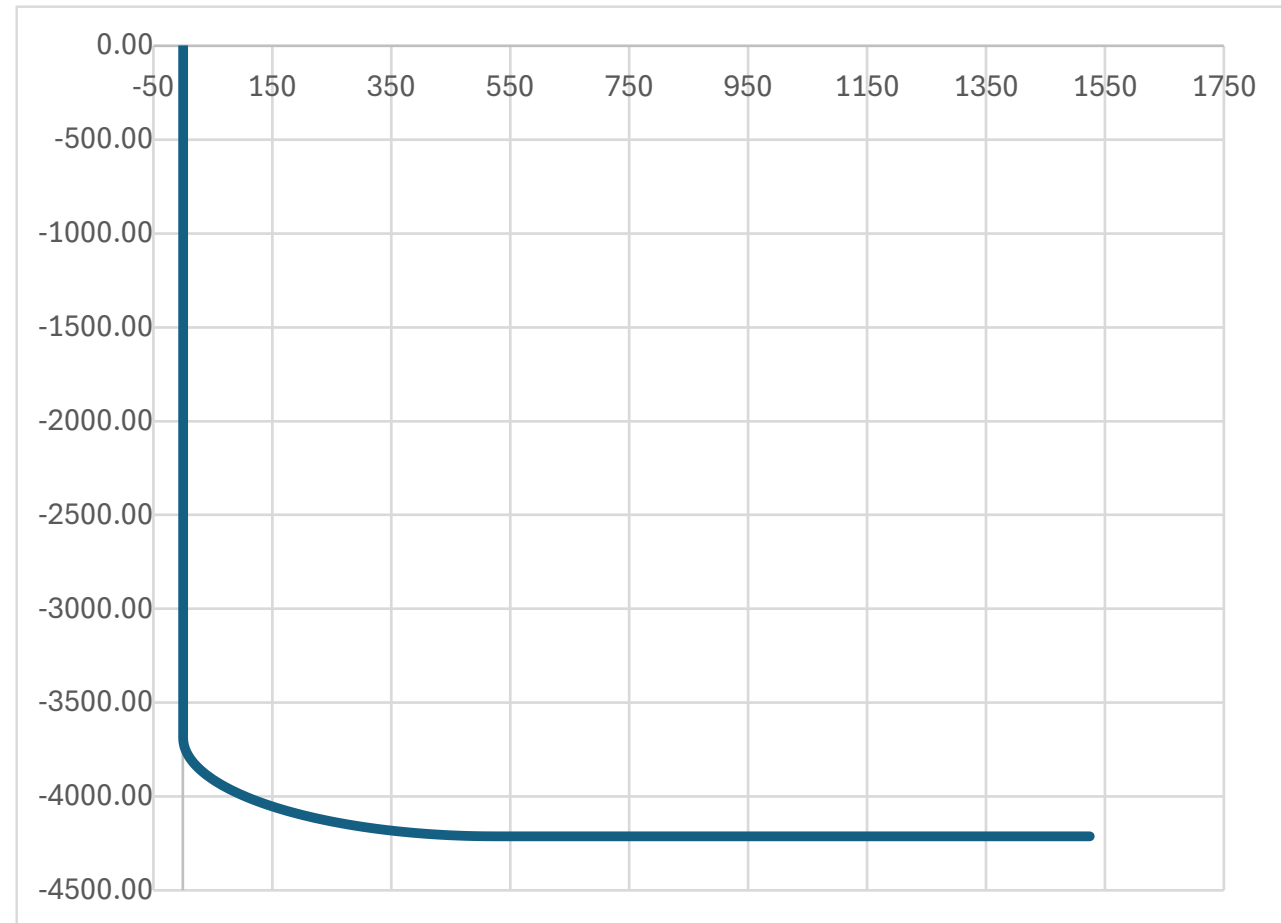
Rate: 10 kg/s

Injection press.:

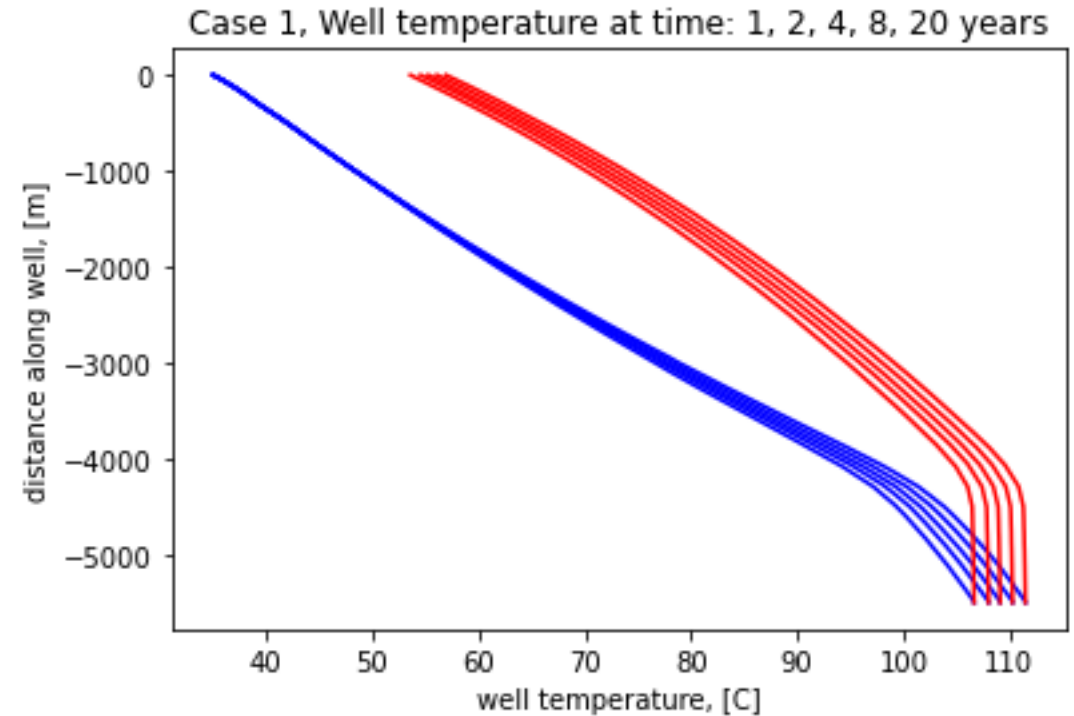
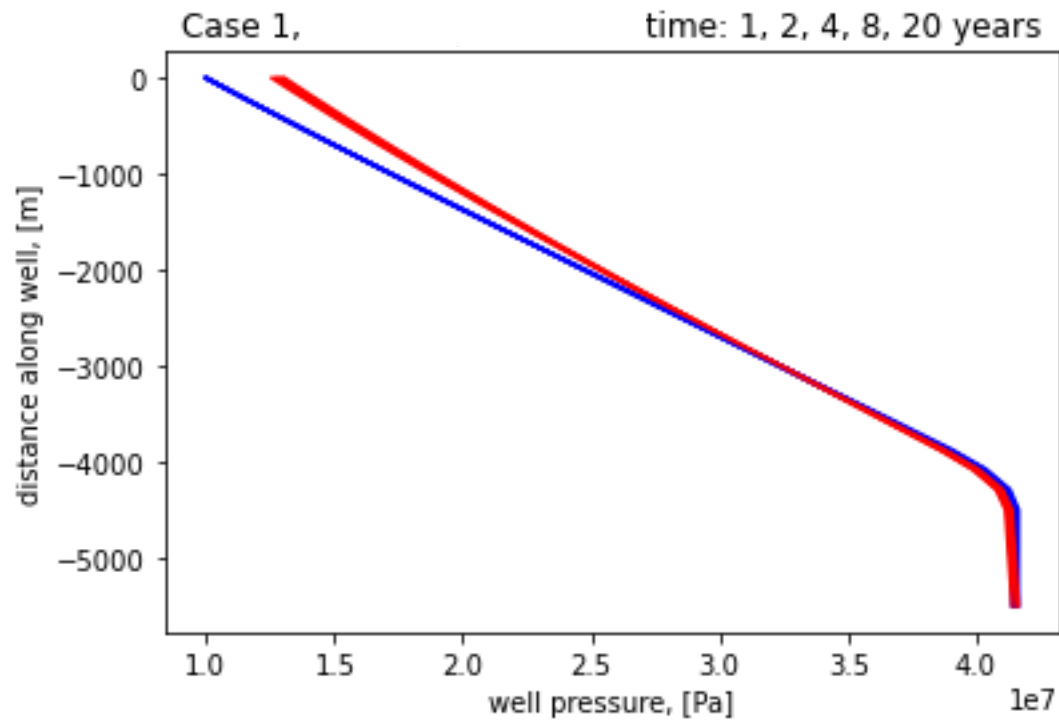
Case 1: 10 MPa

Case 2: 20 MPa

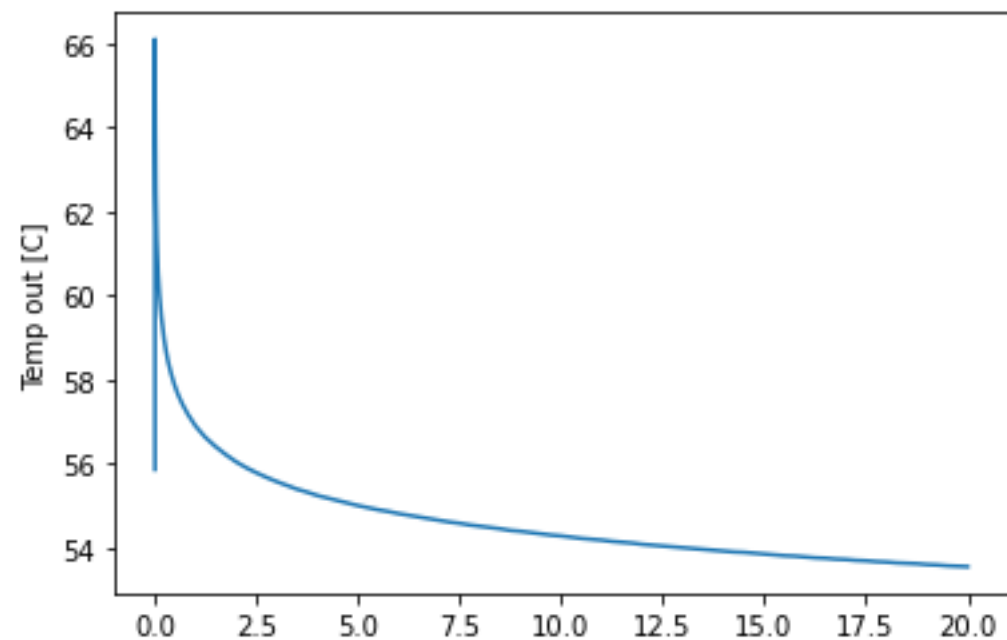
Case 3: 30 MPa



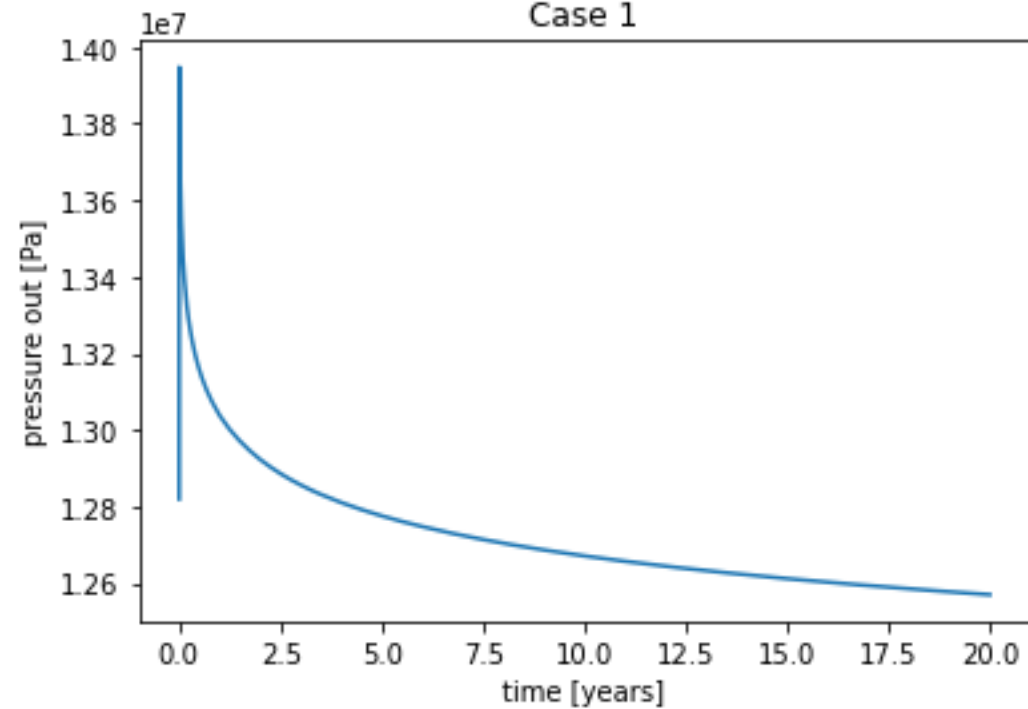
Case 1 – the same diameter throughout the well



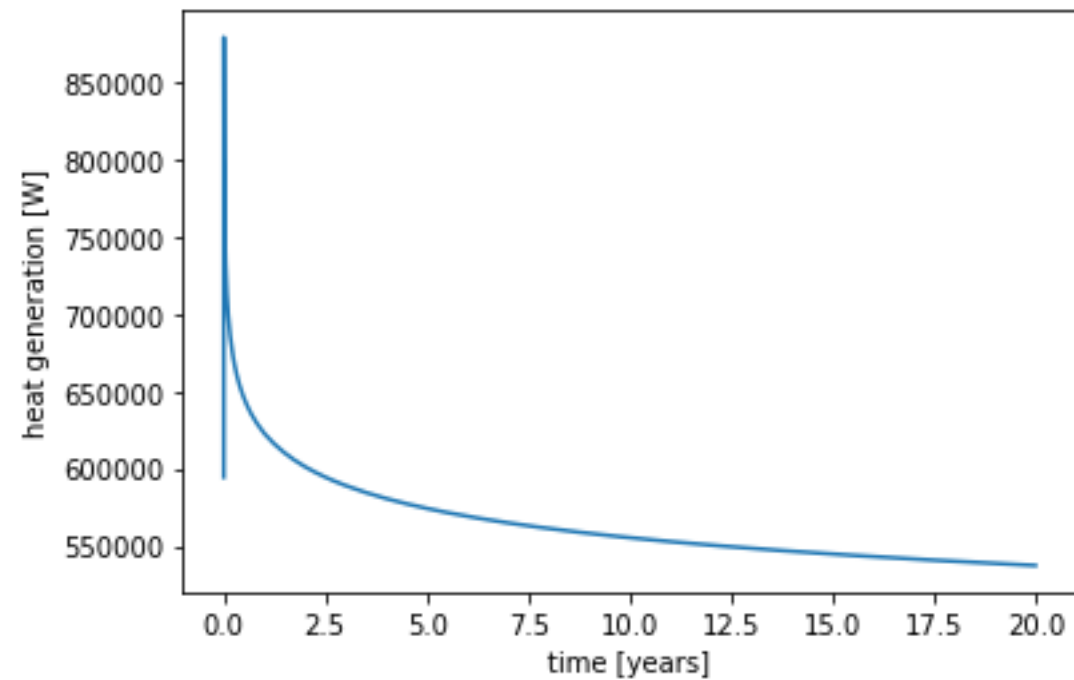
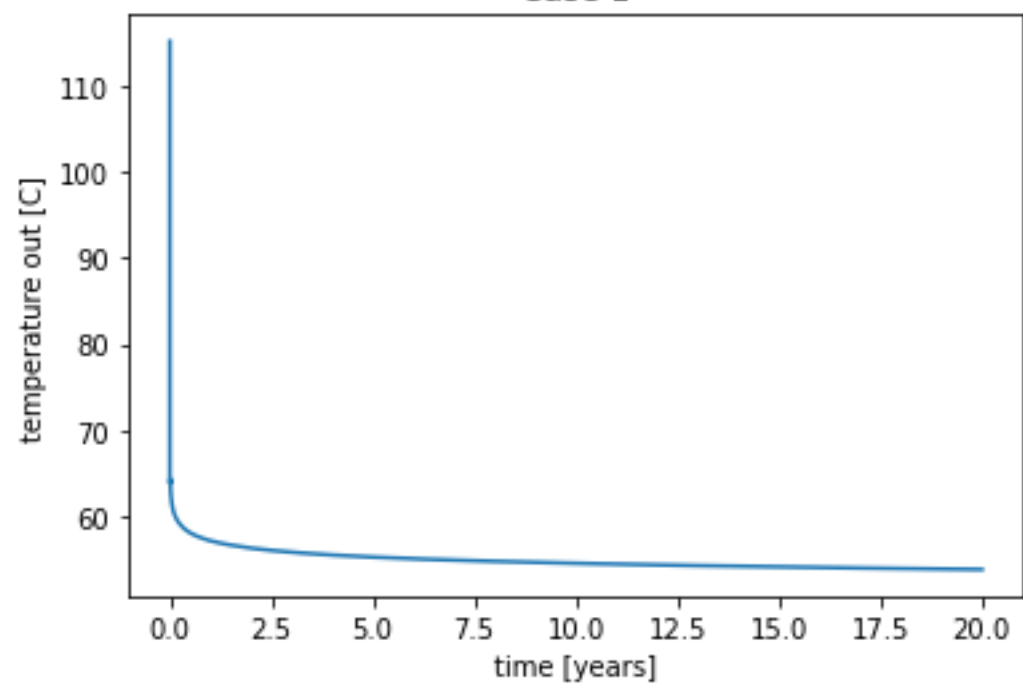
Case 1



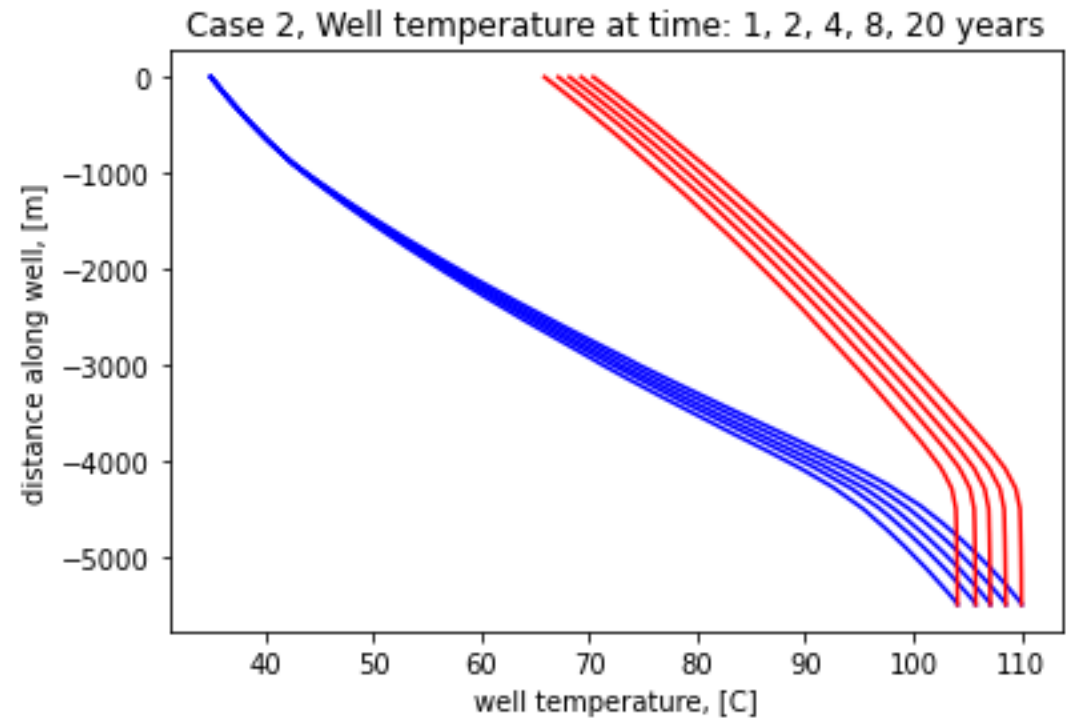
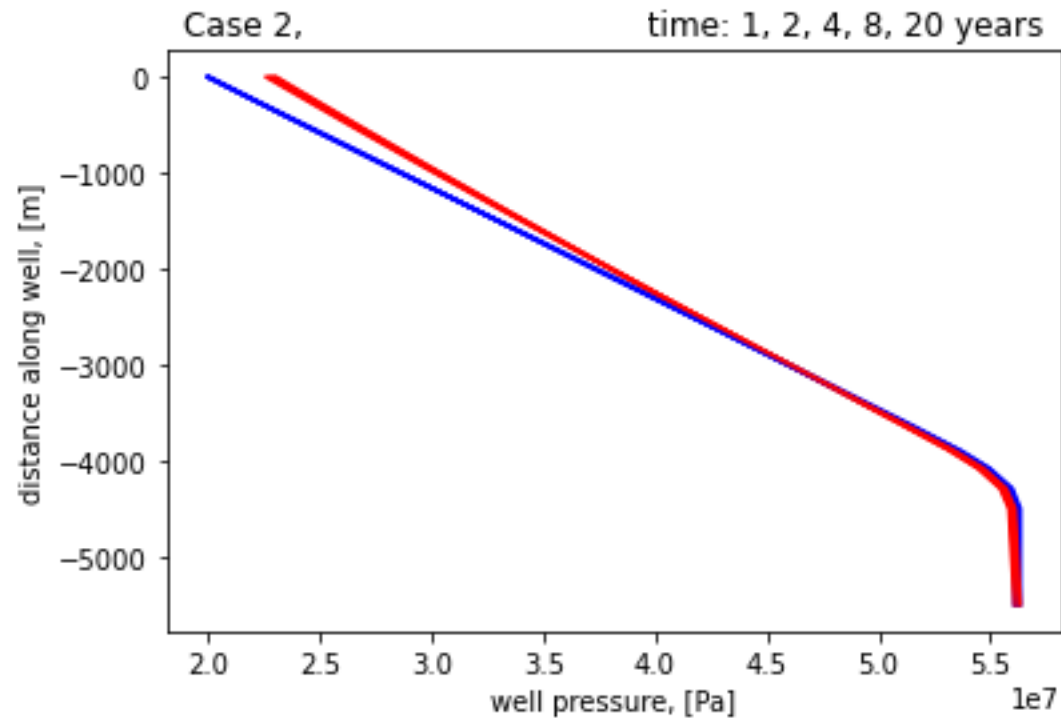
Case 1



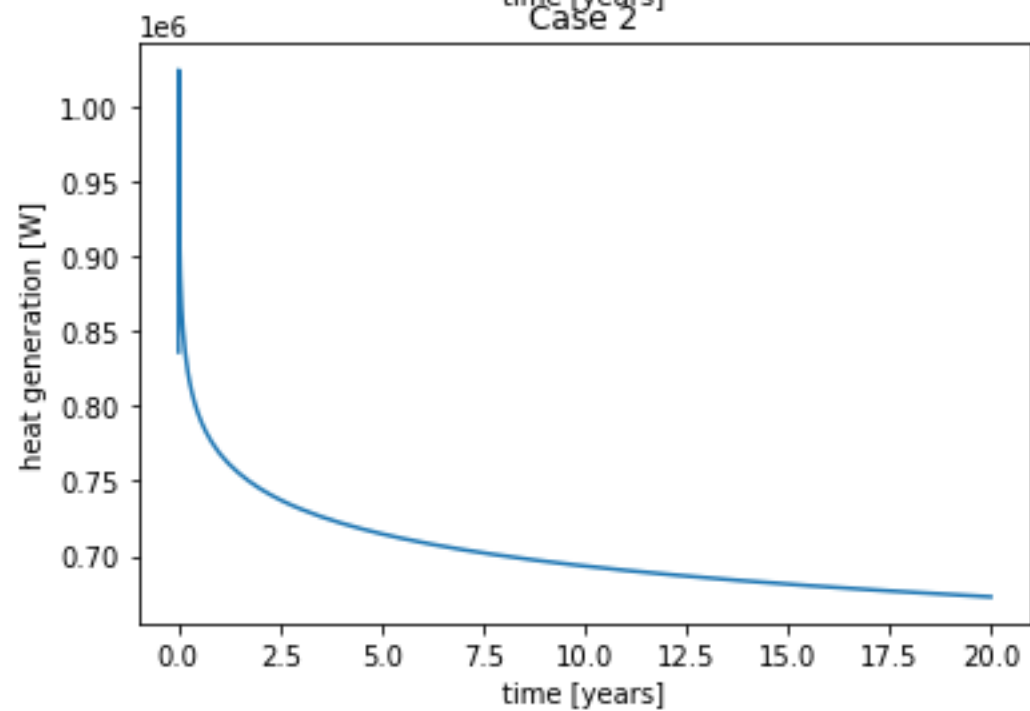
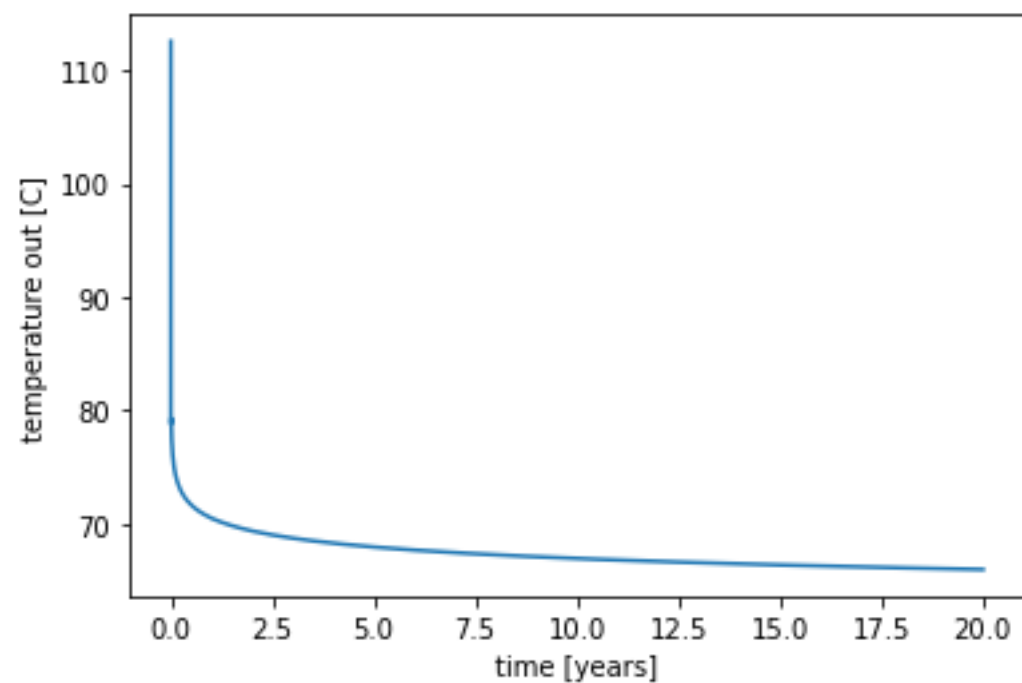
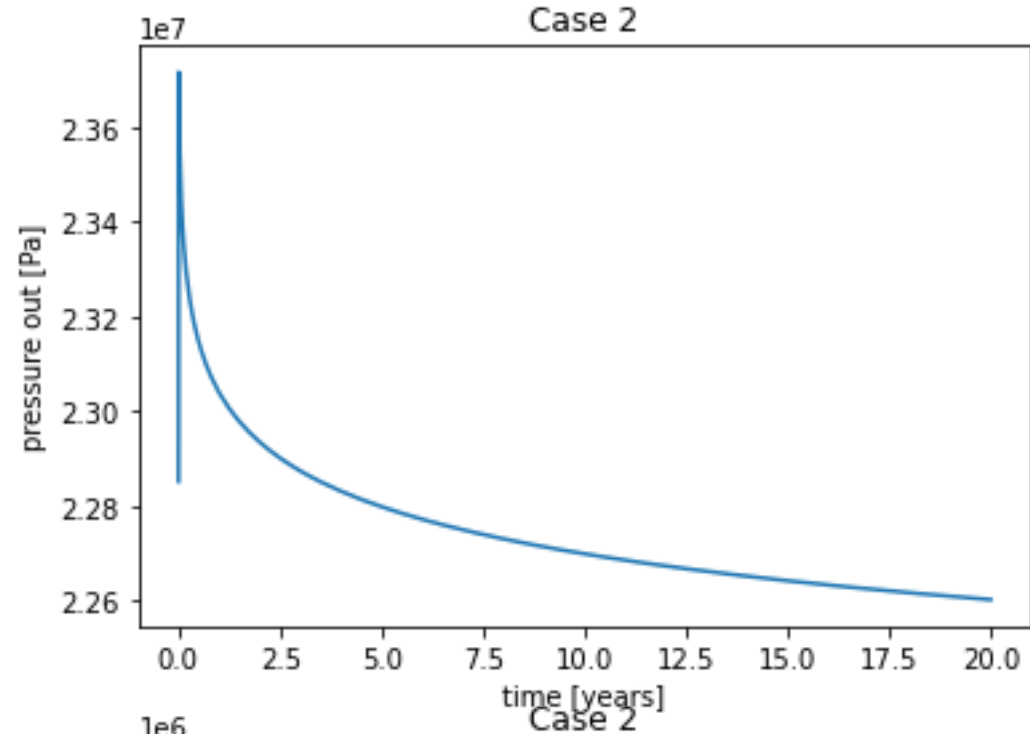
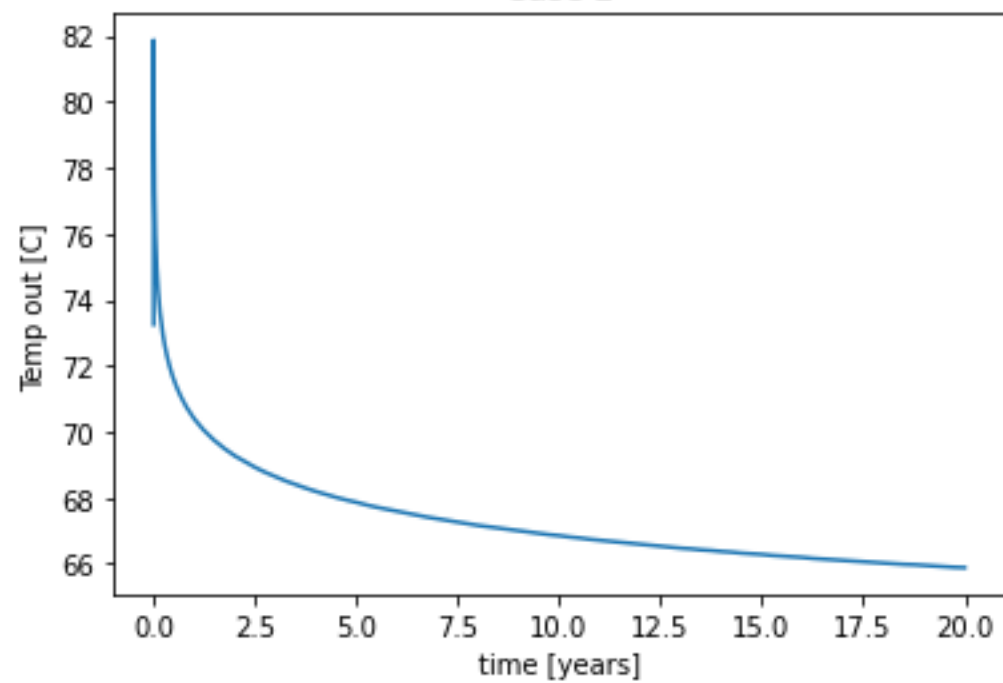
Case 1



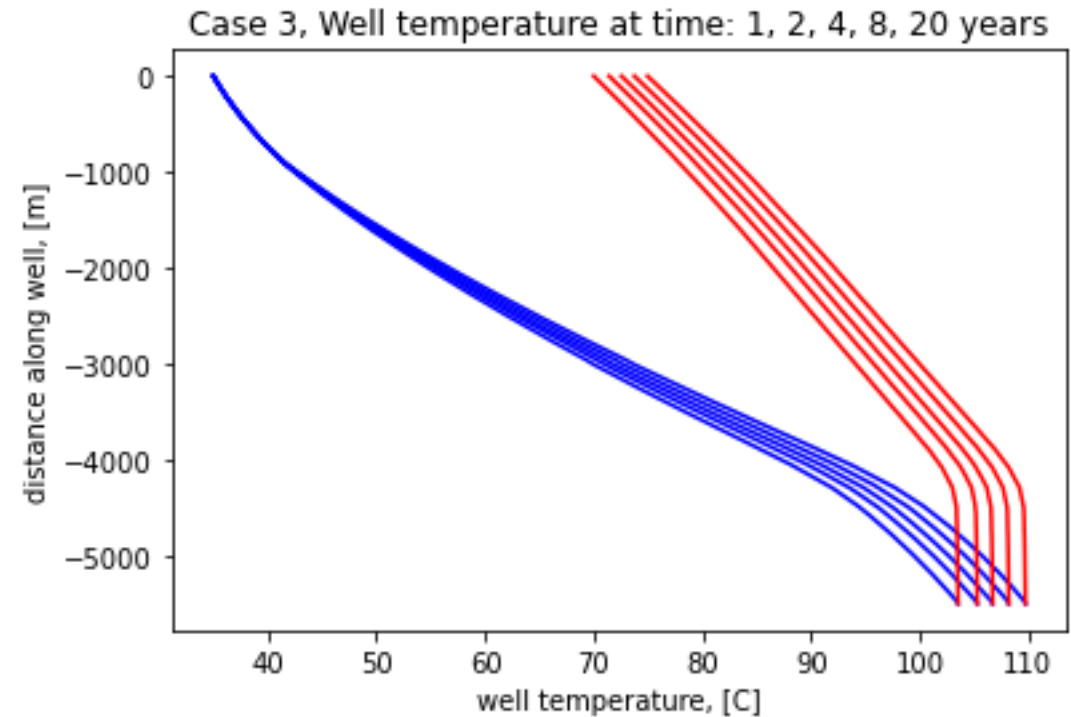
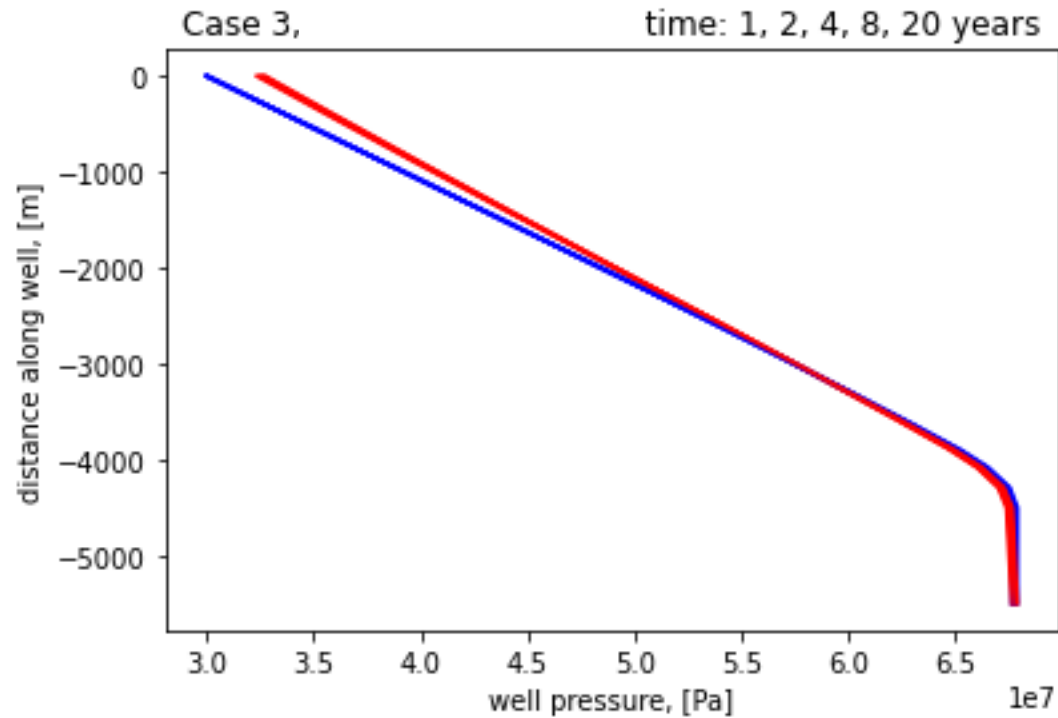
Case 2 – the same diameter throughout the well



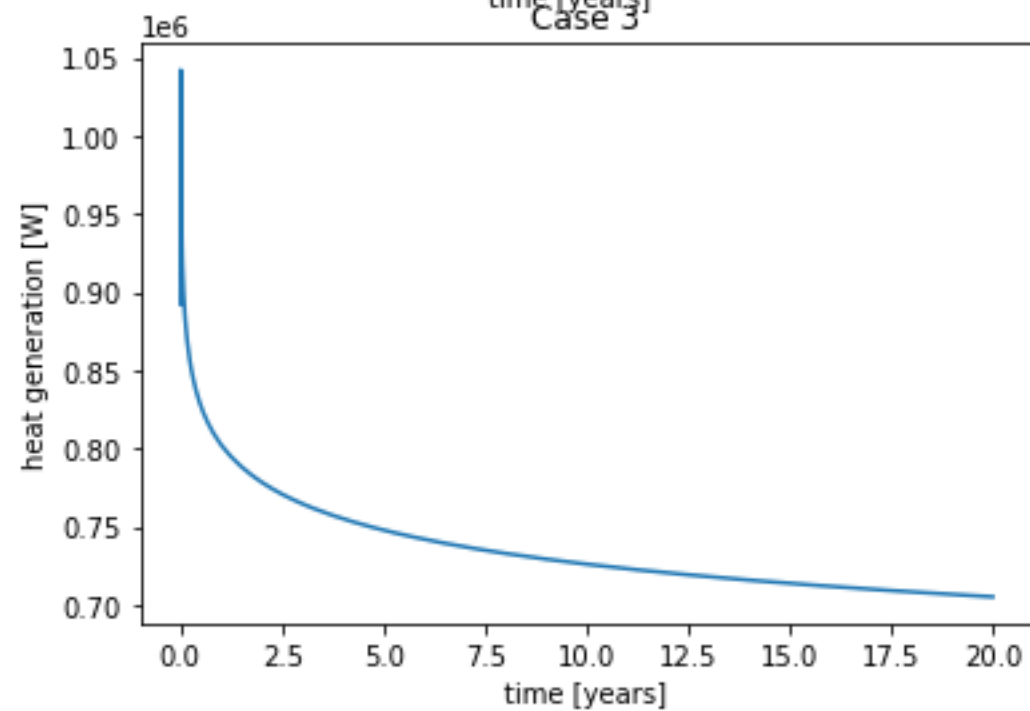
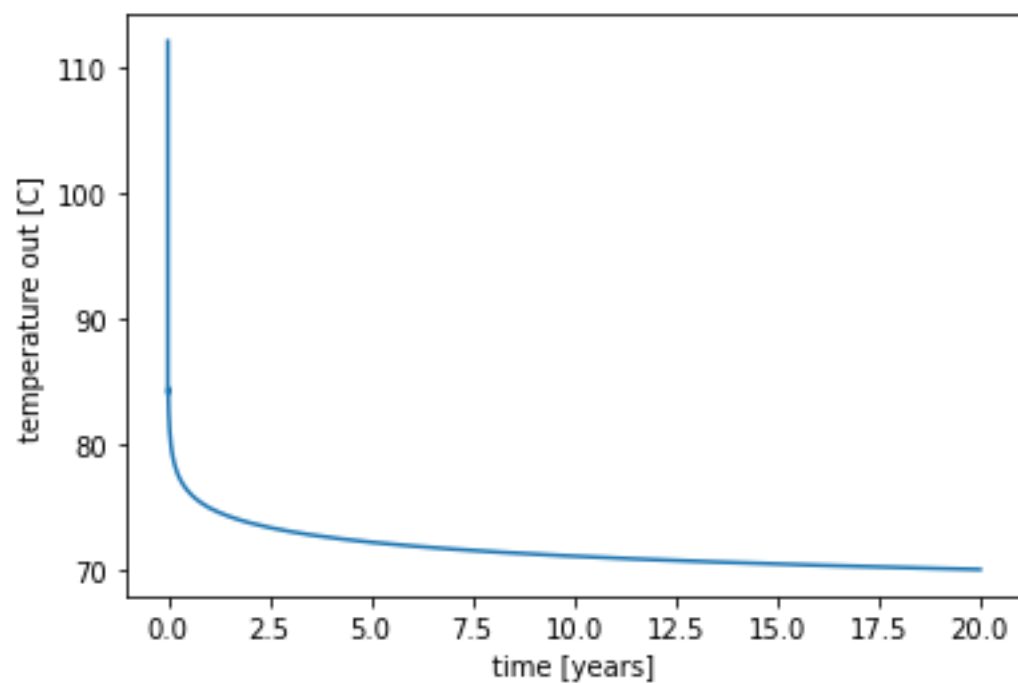
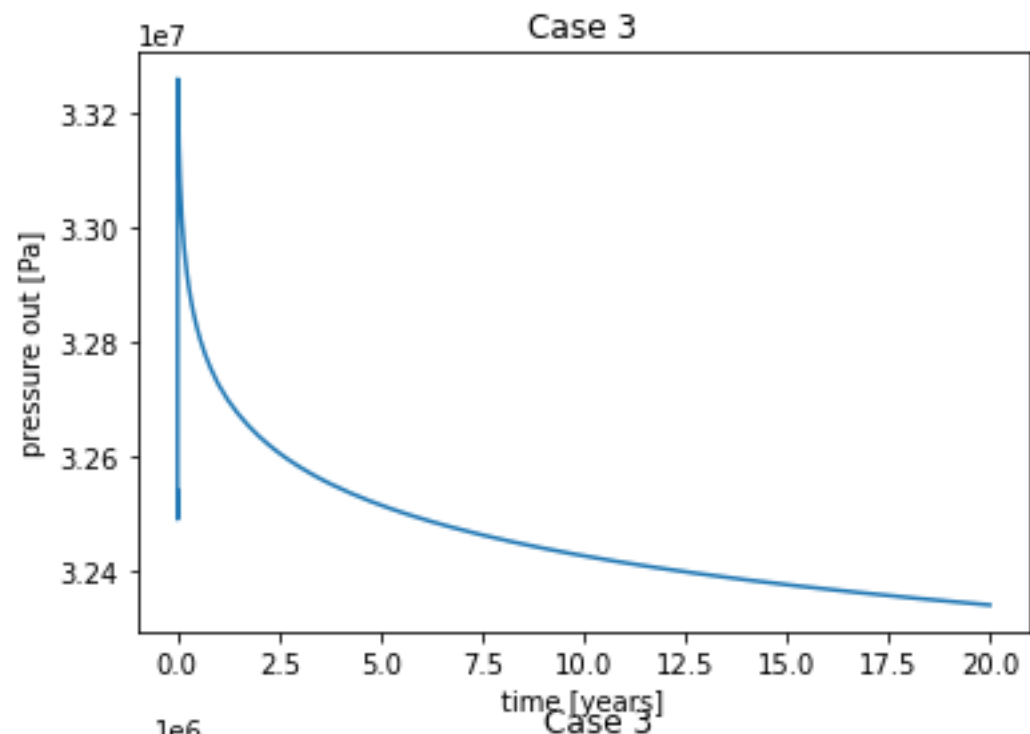
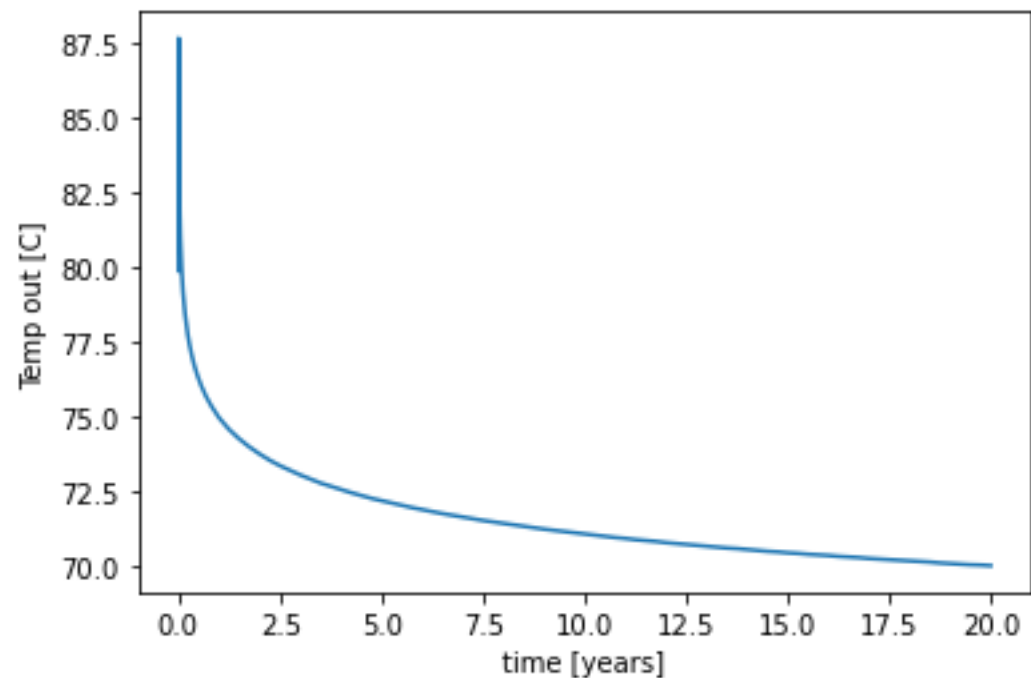
Case 2

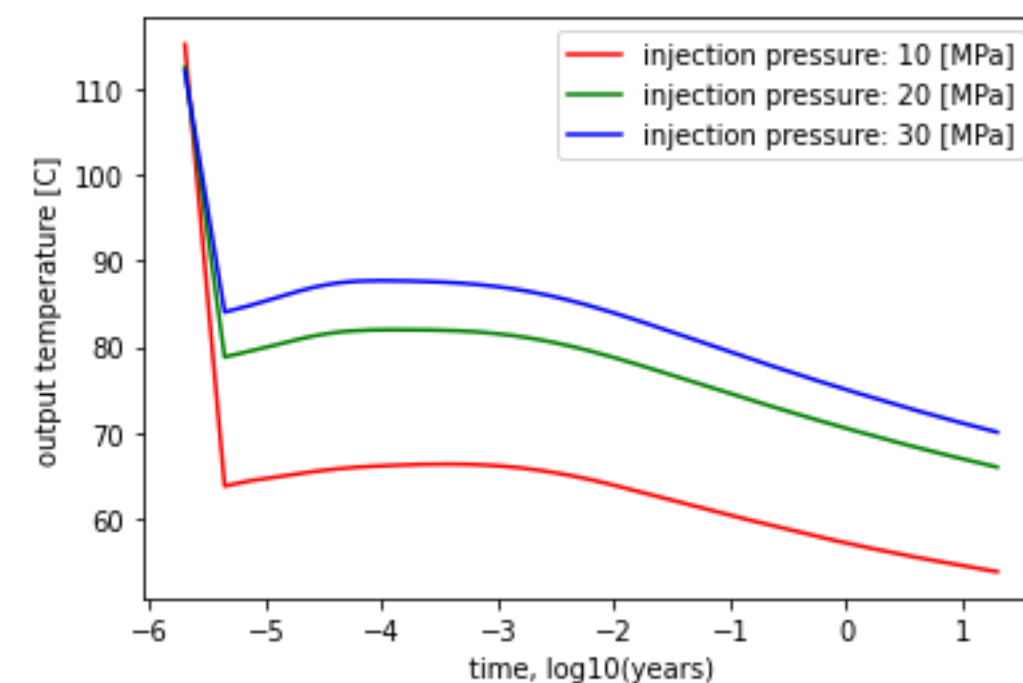
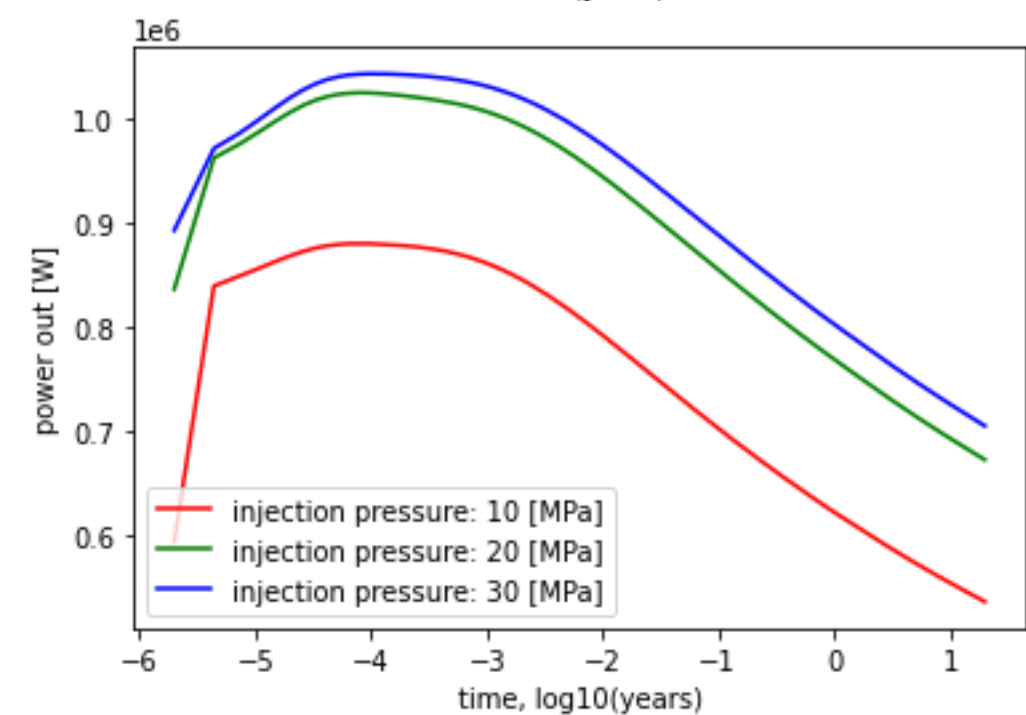
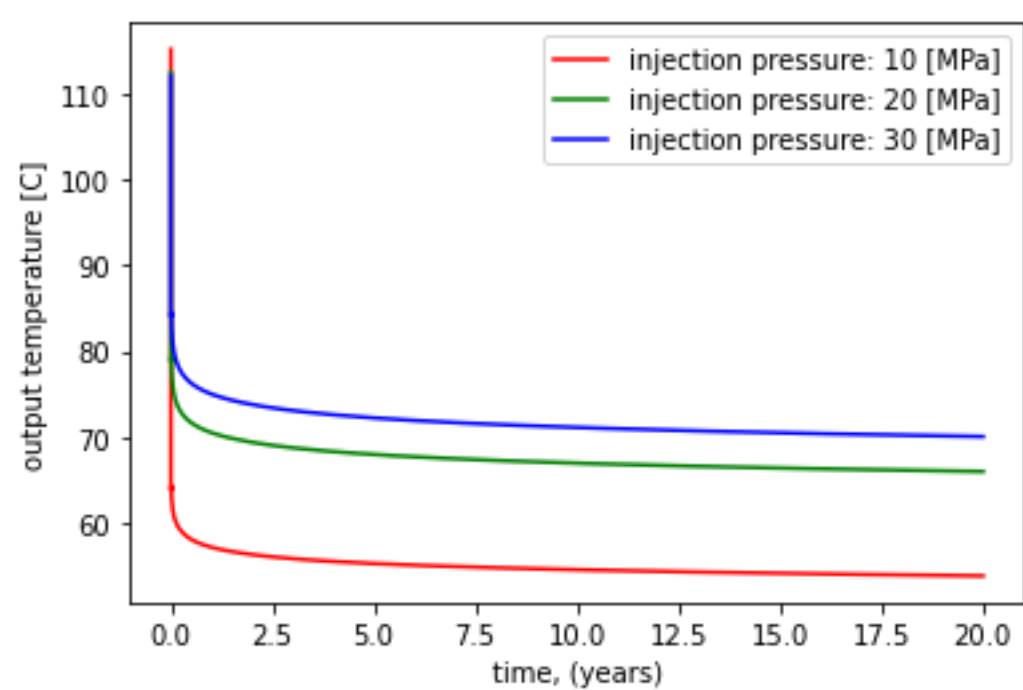
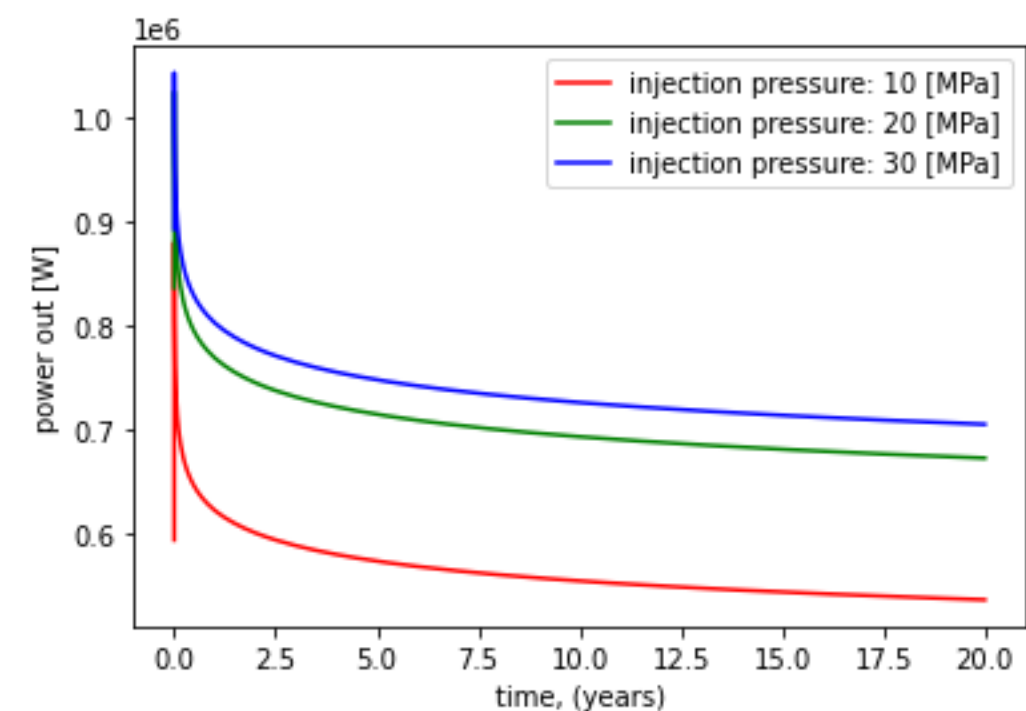


Case 3 – the same diameter throughout the well



Case 3





CO₂ – the same diameter throughout the well

Horizontal well – 1000 m horizontal section

Casings:

Constant delta annular (0.0868 m) as for casings ID 12.347 inch

Injection temp.: 35 °C

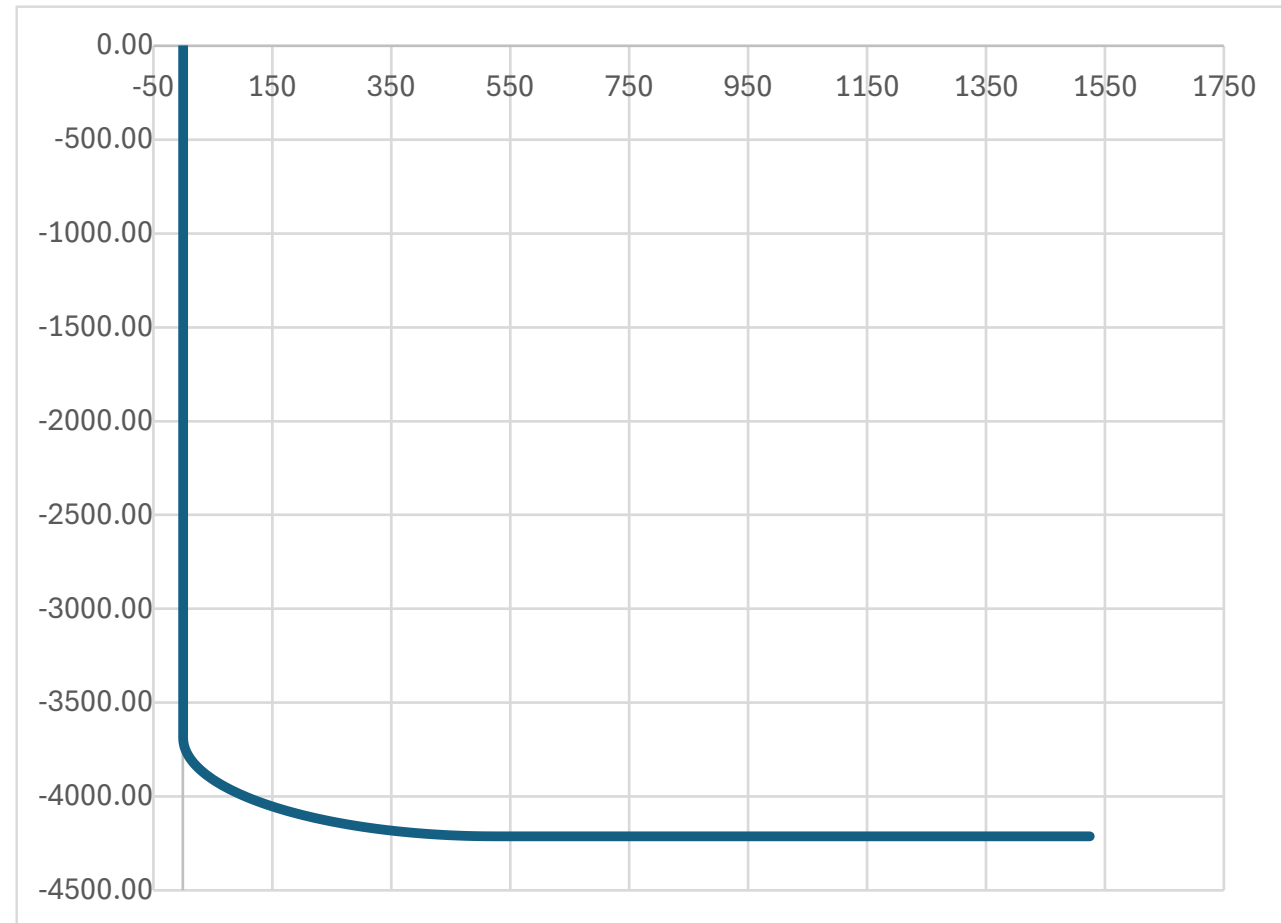
Injection press.: 10 MPa

Rate:

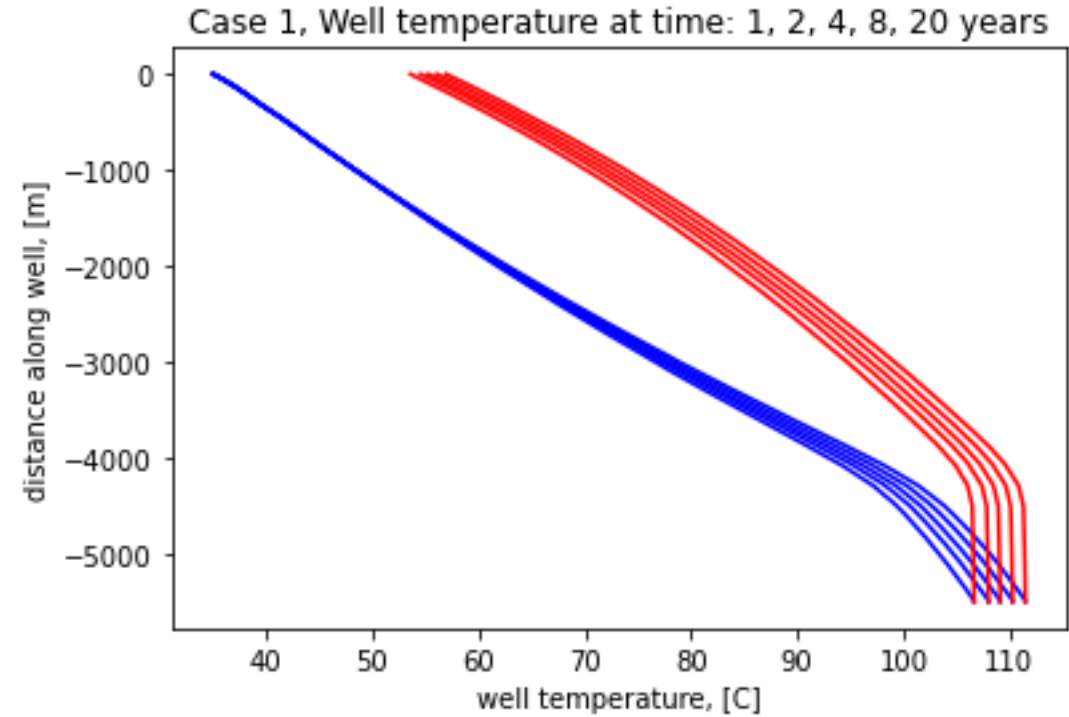
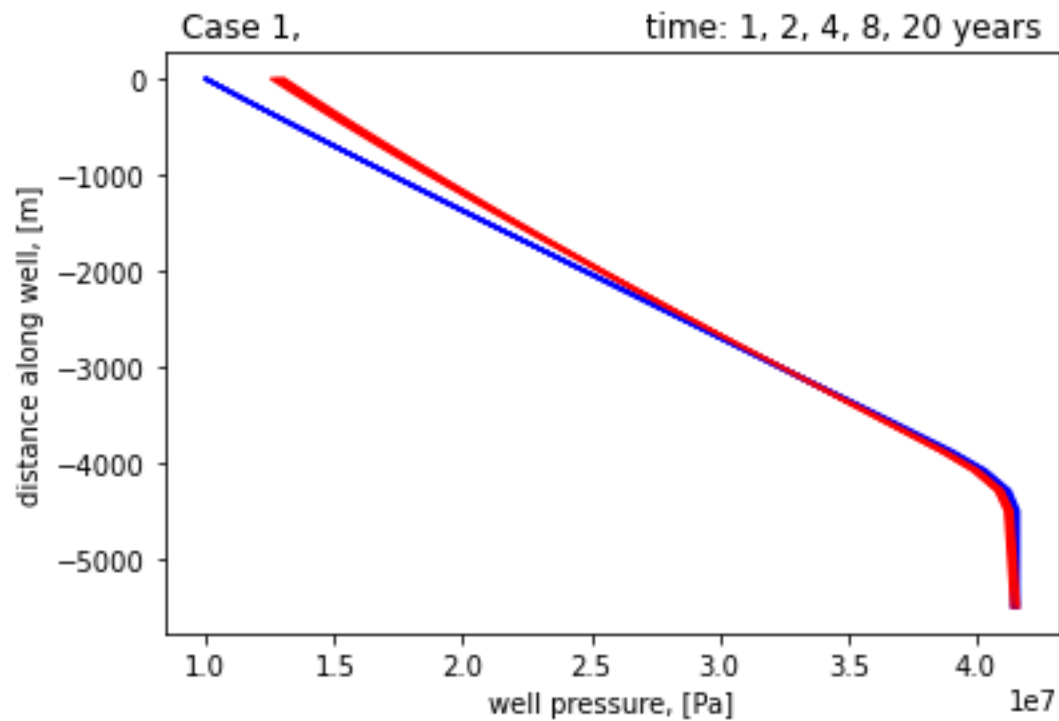
Case 1: 10 kg/s

Case 2: 20 kg/s

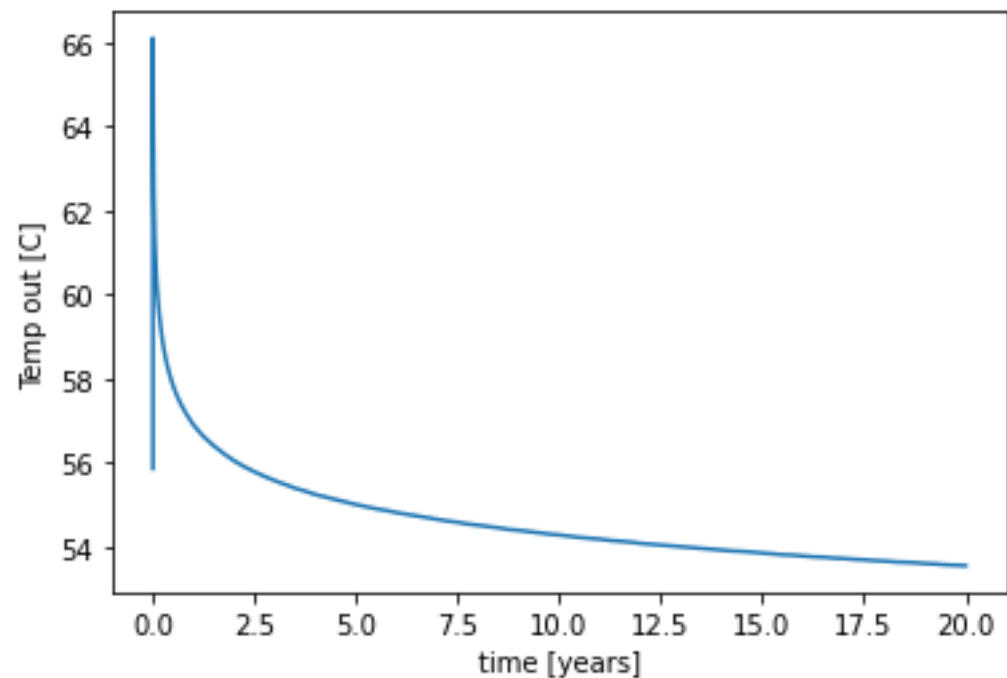
Case 3: 30 kg/s



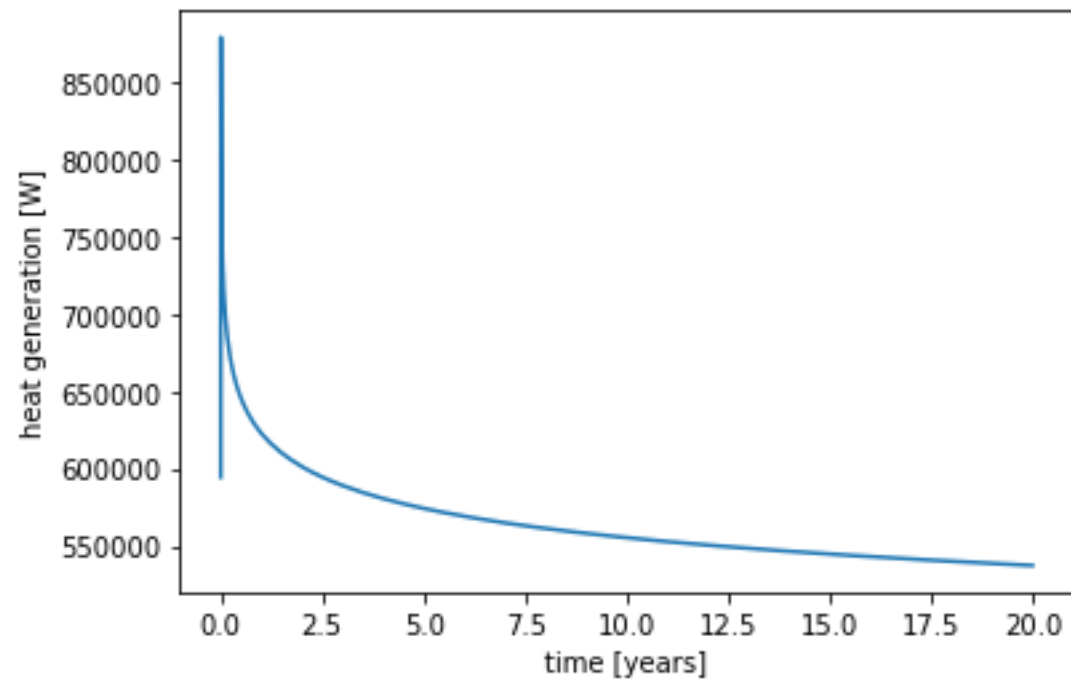
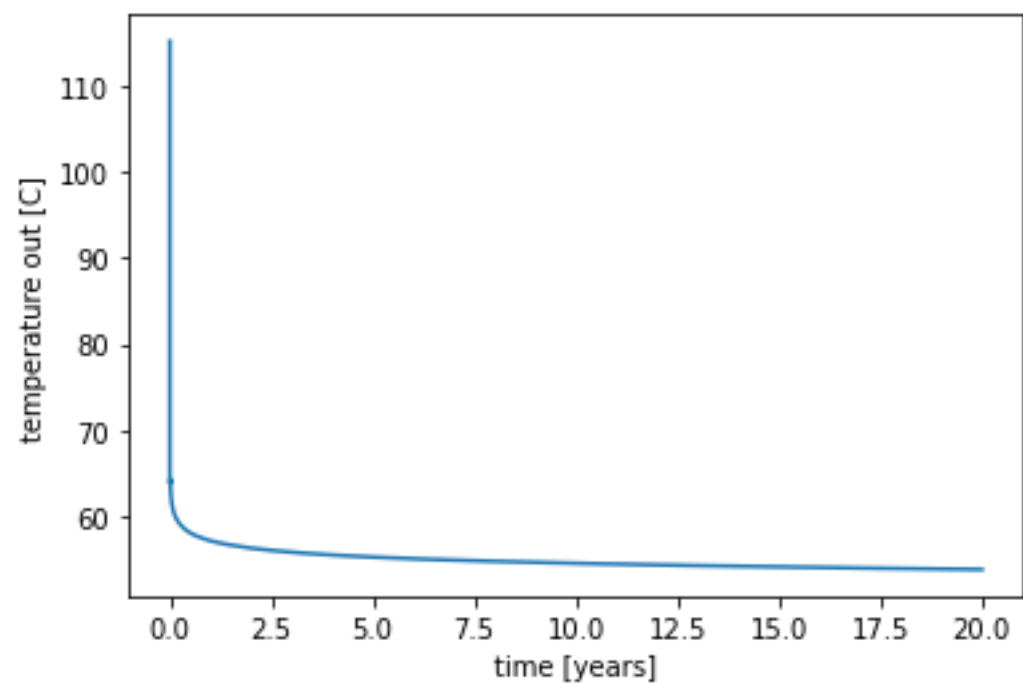
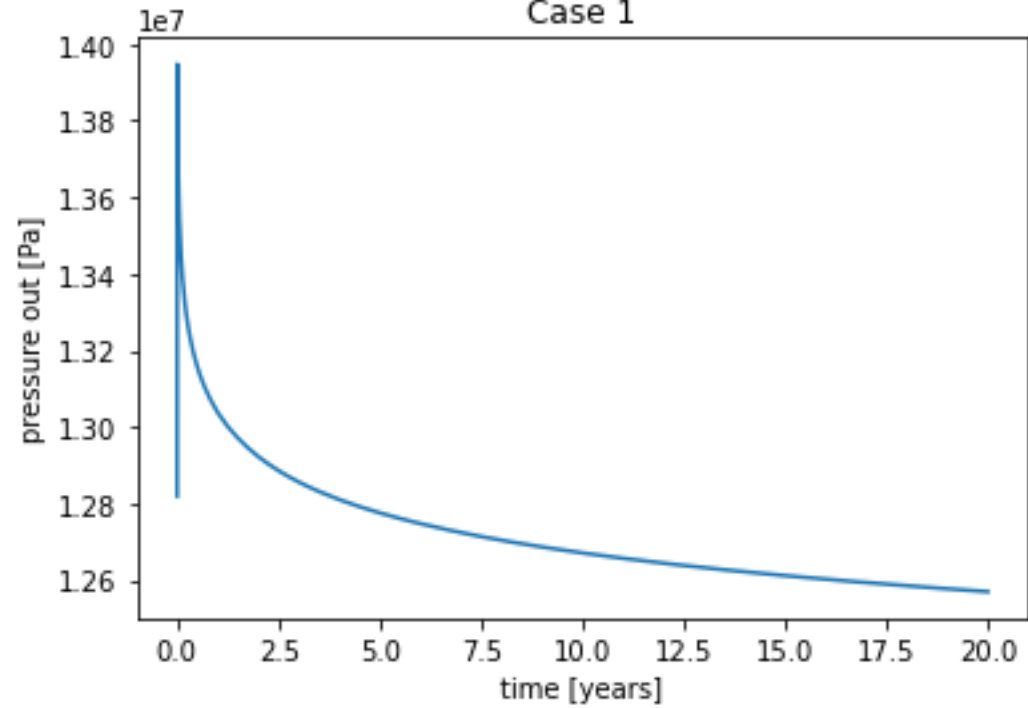
Case 1 – the same diameter throughout the well



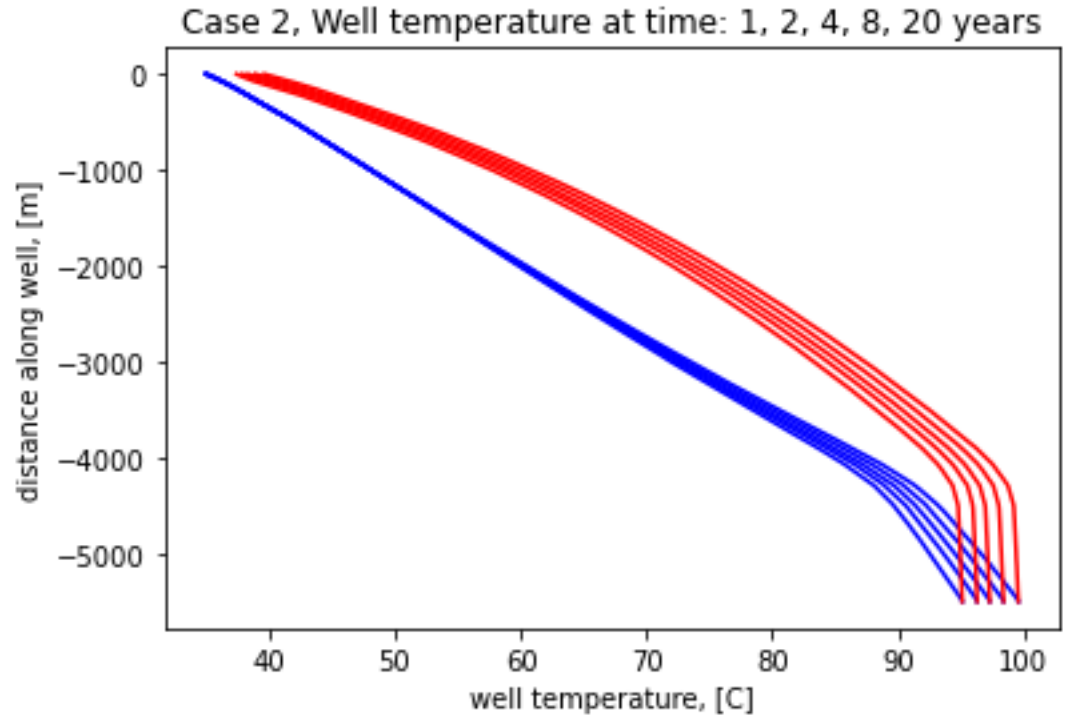
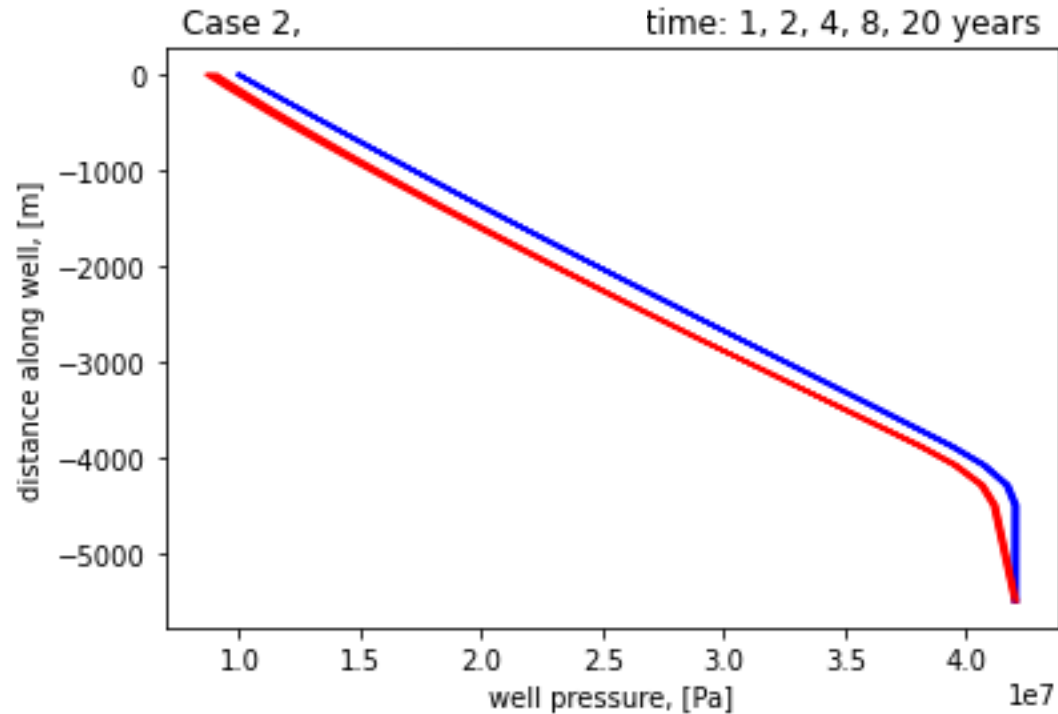
Case 1



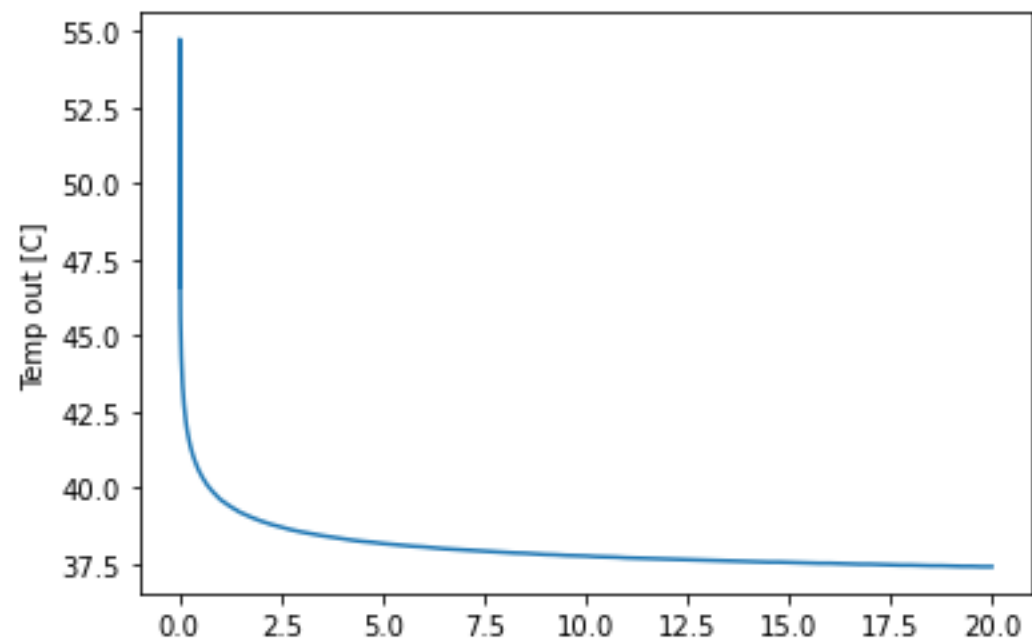
Case 1



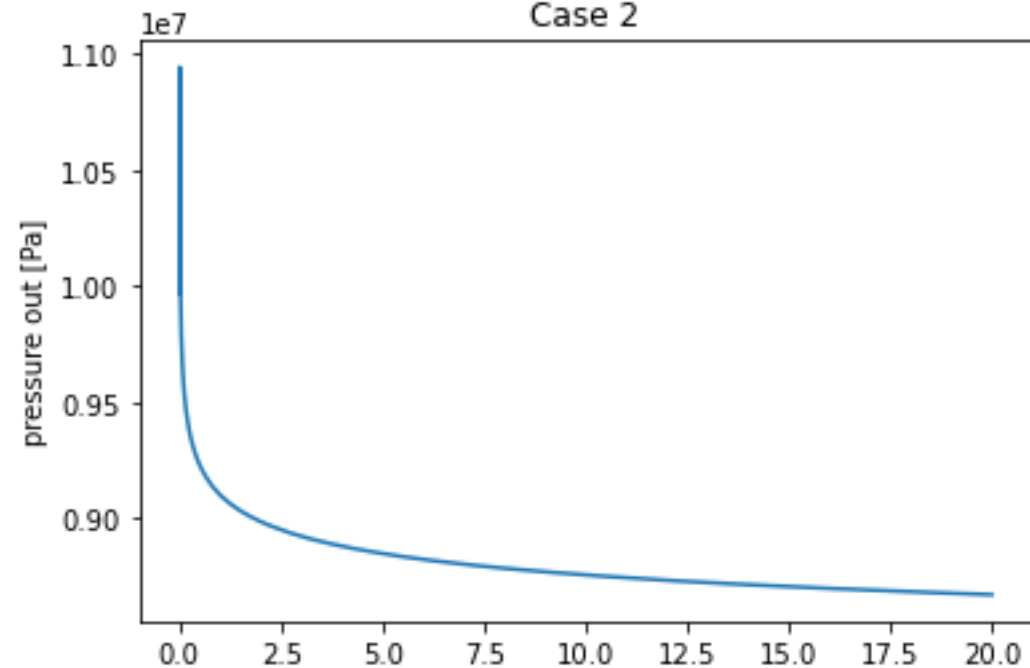
Case 2 – the same diameter throughout the well



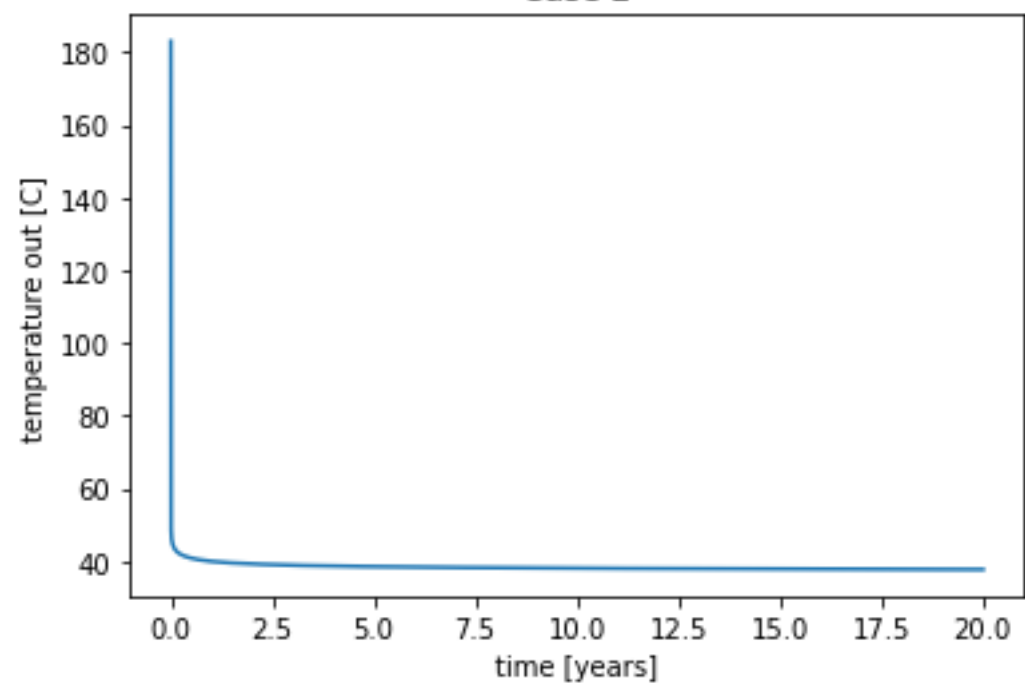
Case 2



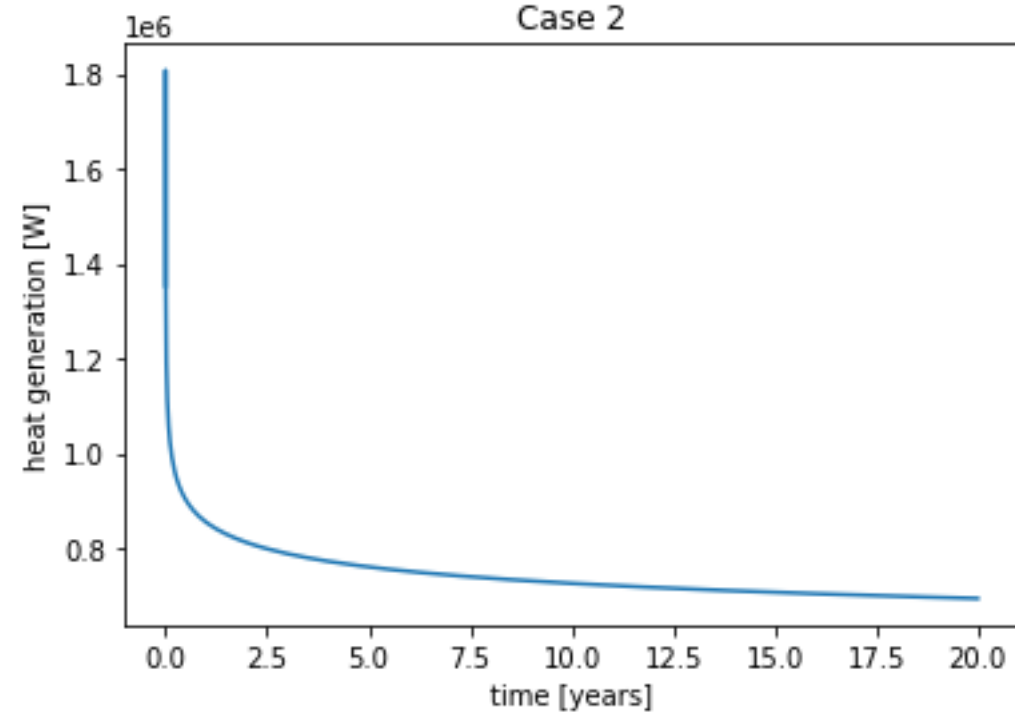
Case 2



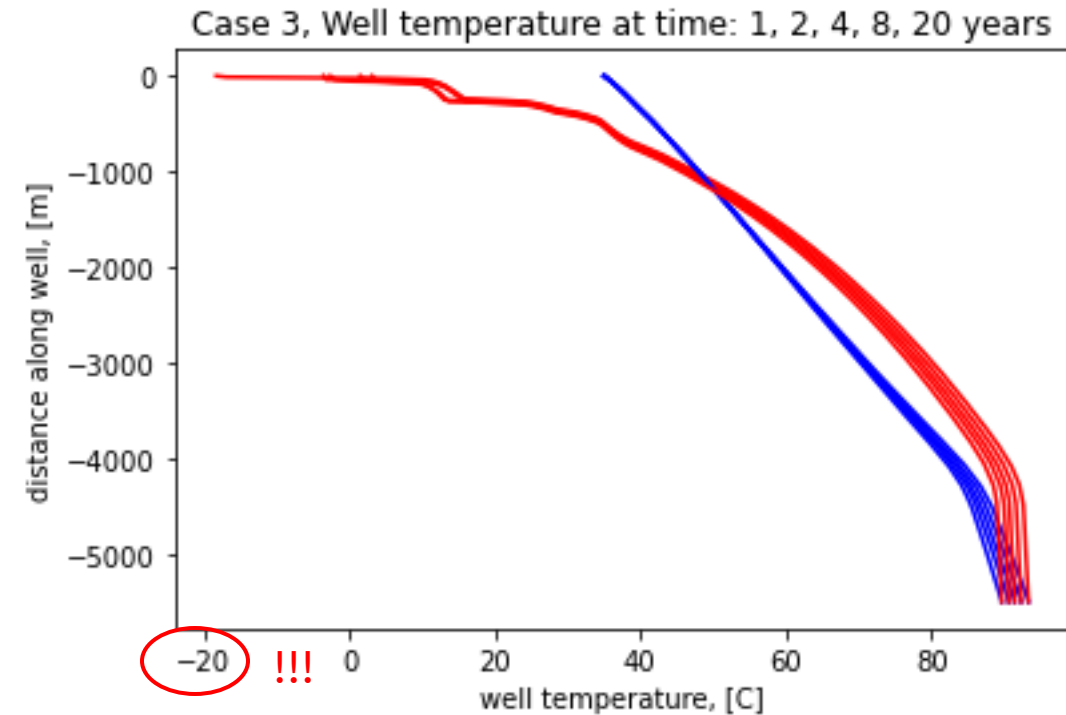
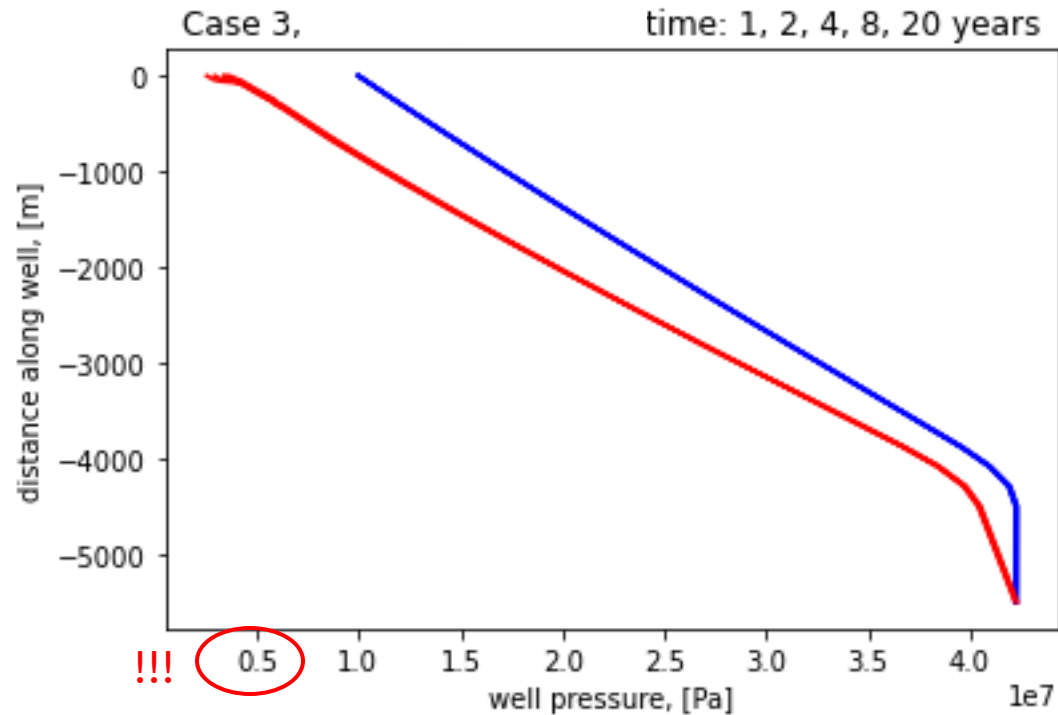
Case 2

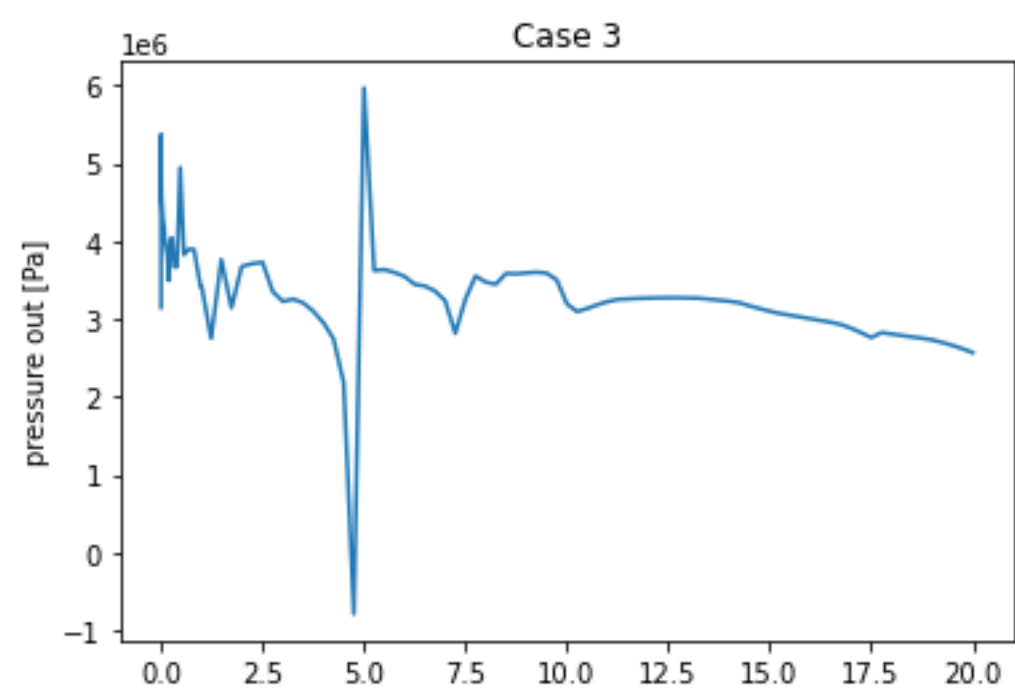
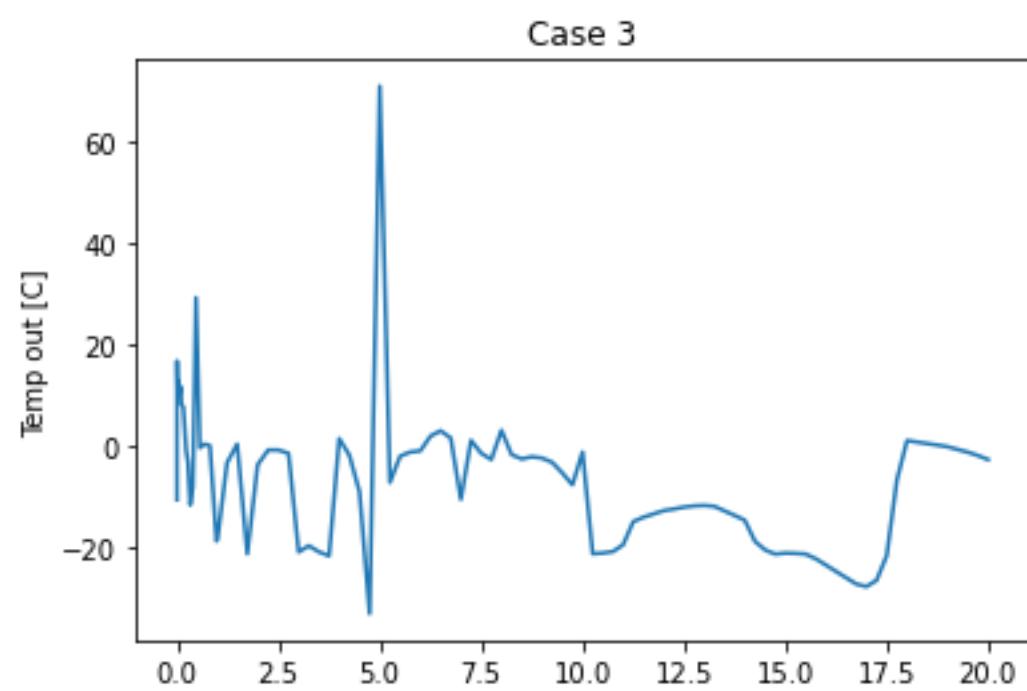


Case 2

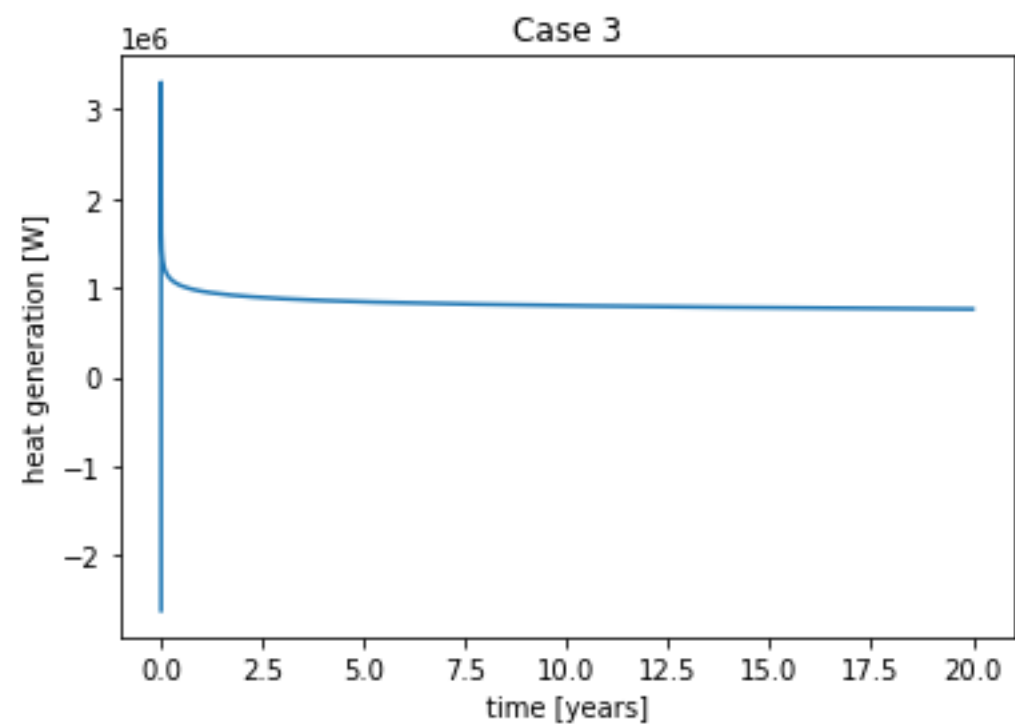
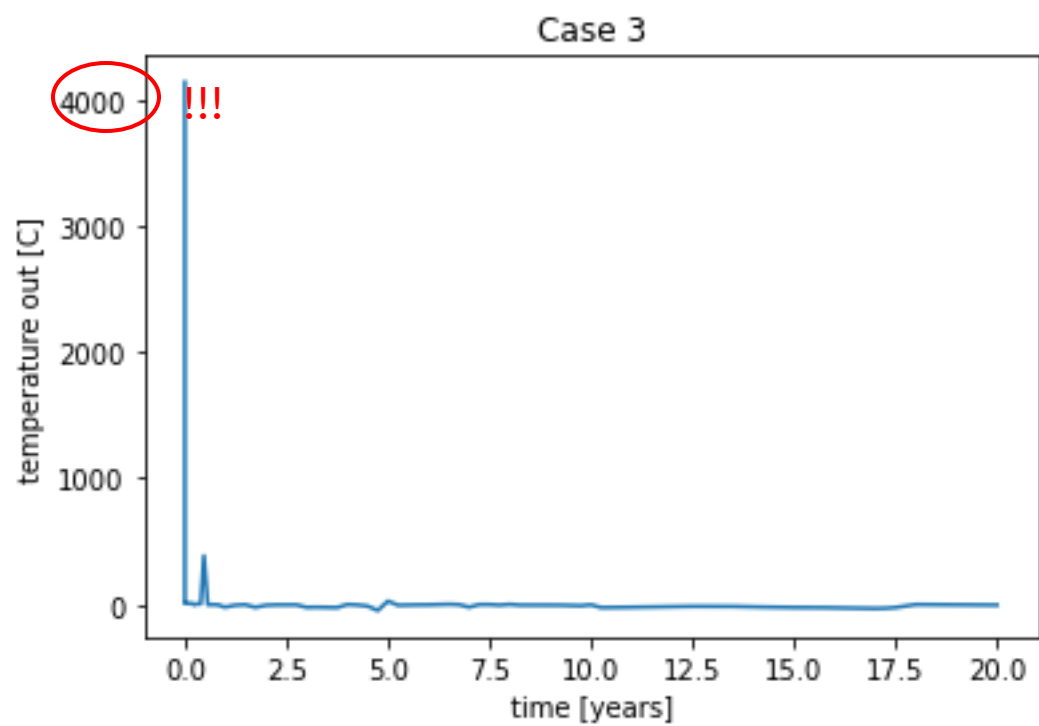


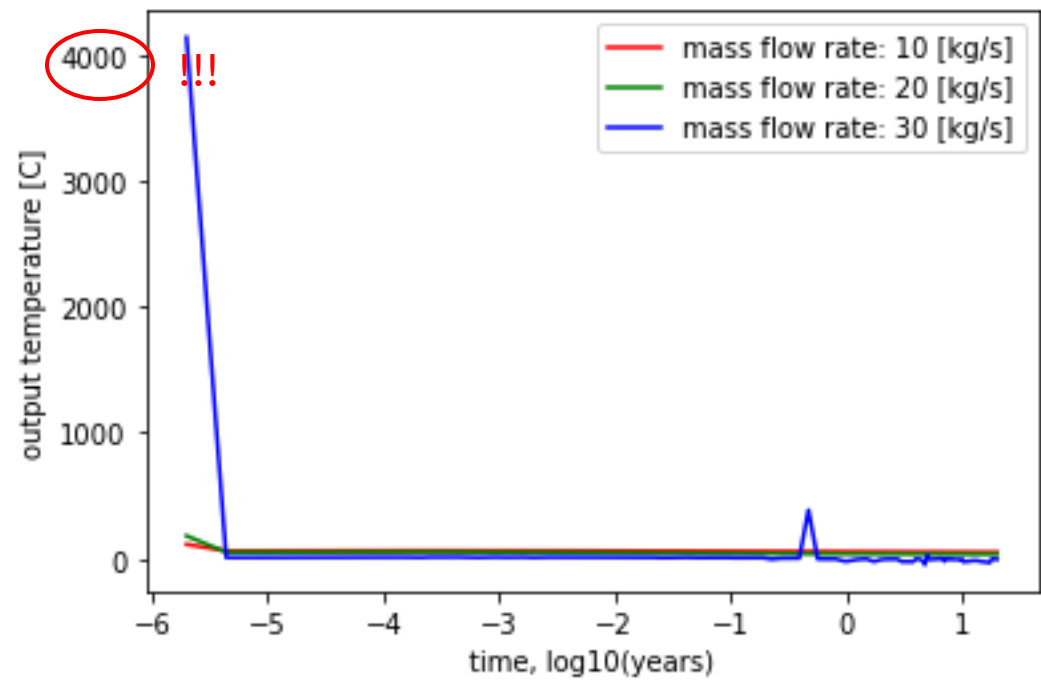
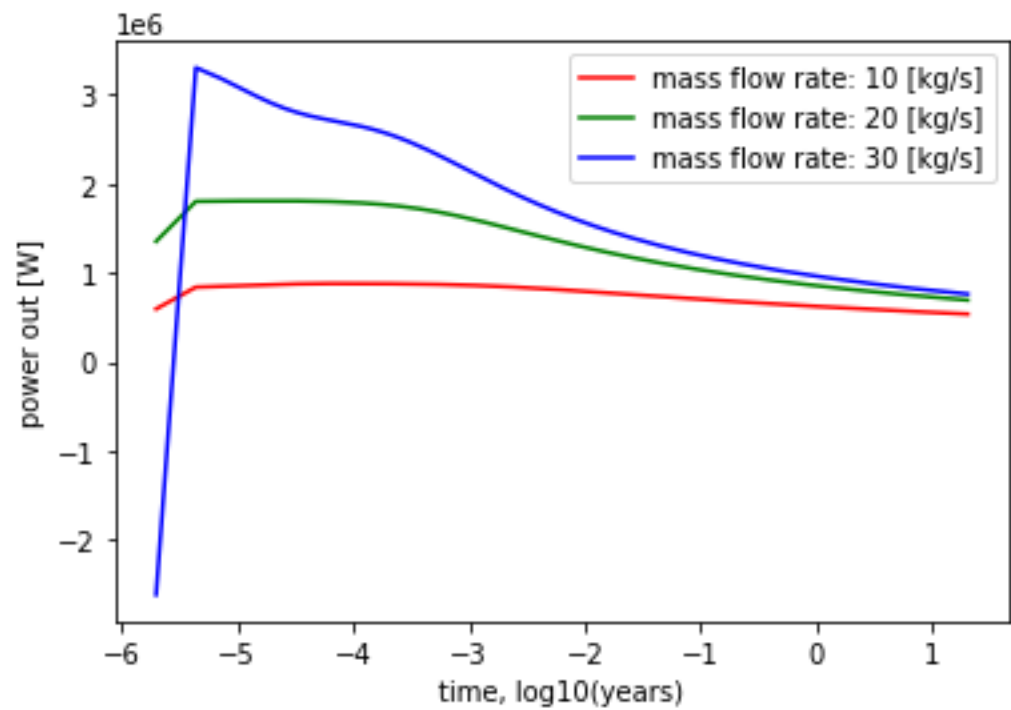
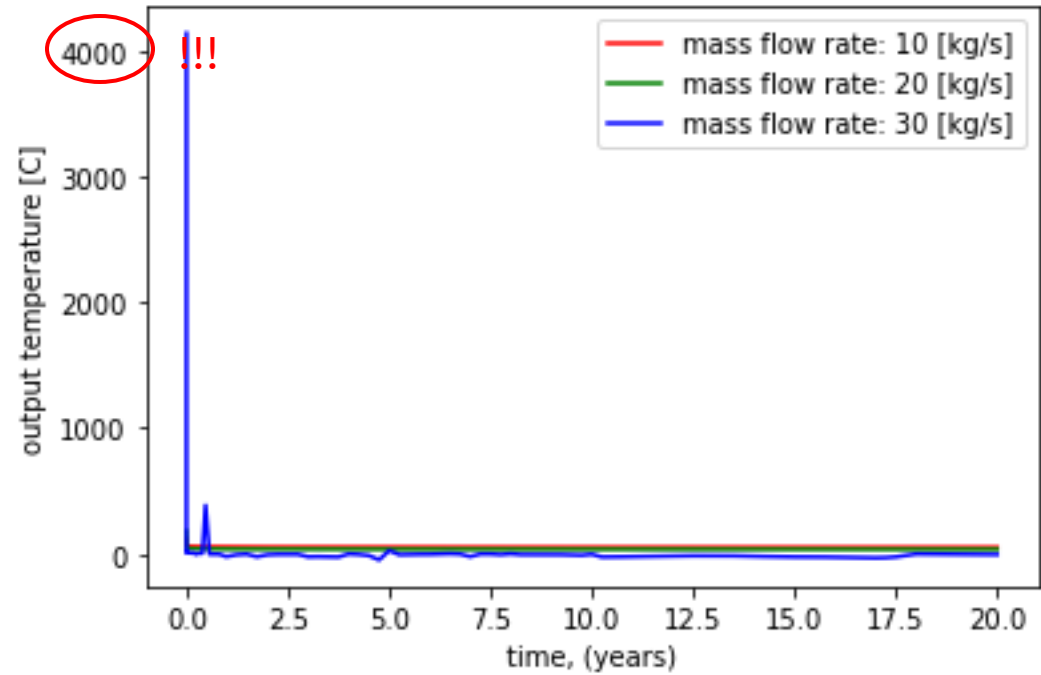
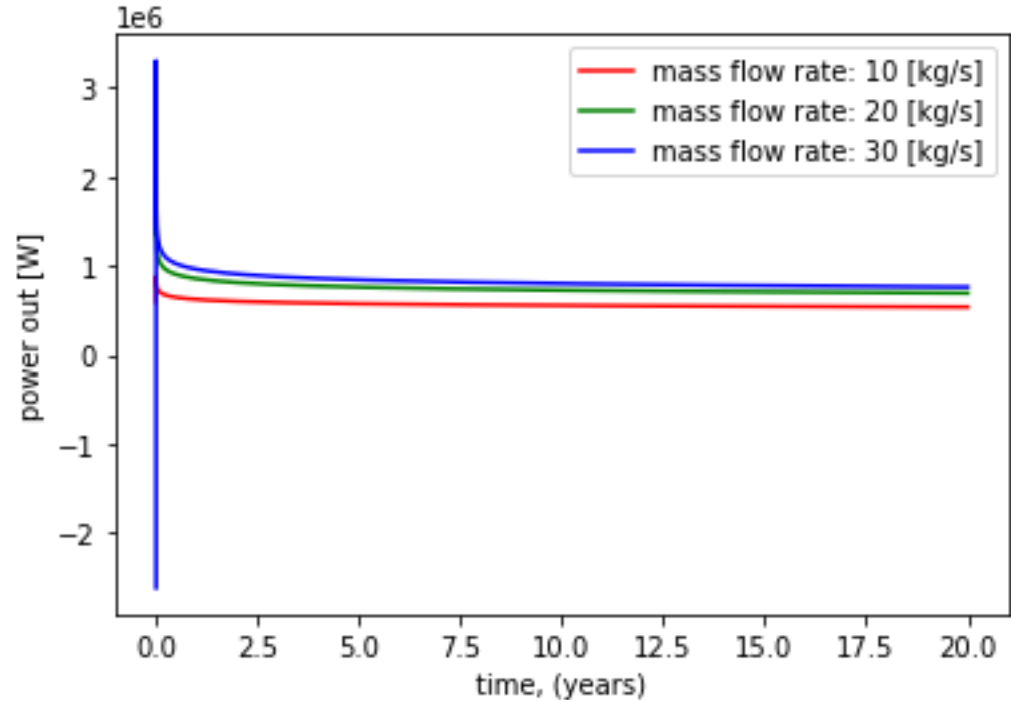
Case 3 – the same diameter throughout the well





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CO₂ – the same diameter throughout the well

Horizontal well – 1000 m horizontal section

Casings:

Constant delta annular (0.0868 m) as for casings ID12.347 inch

Injection press.: 10 MPa

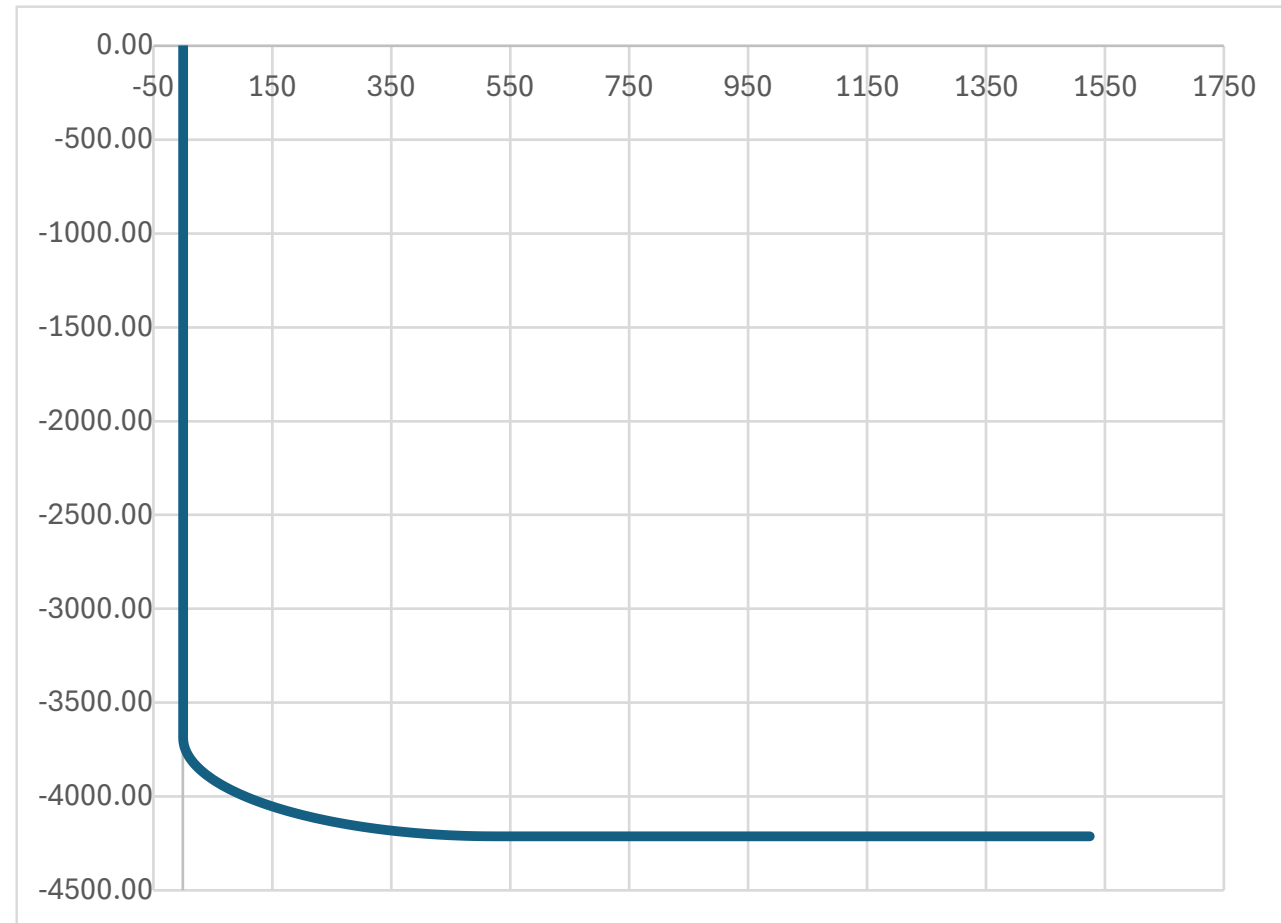
Rate: 10 kg/s

Injection temp.:

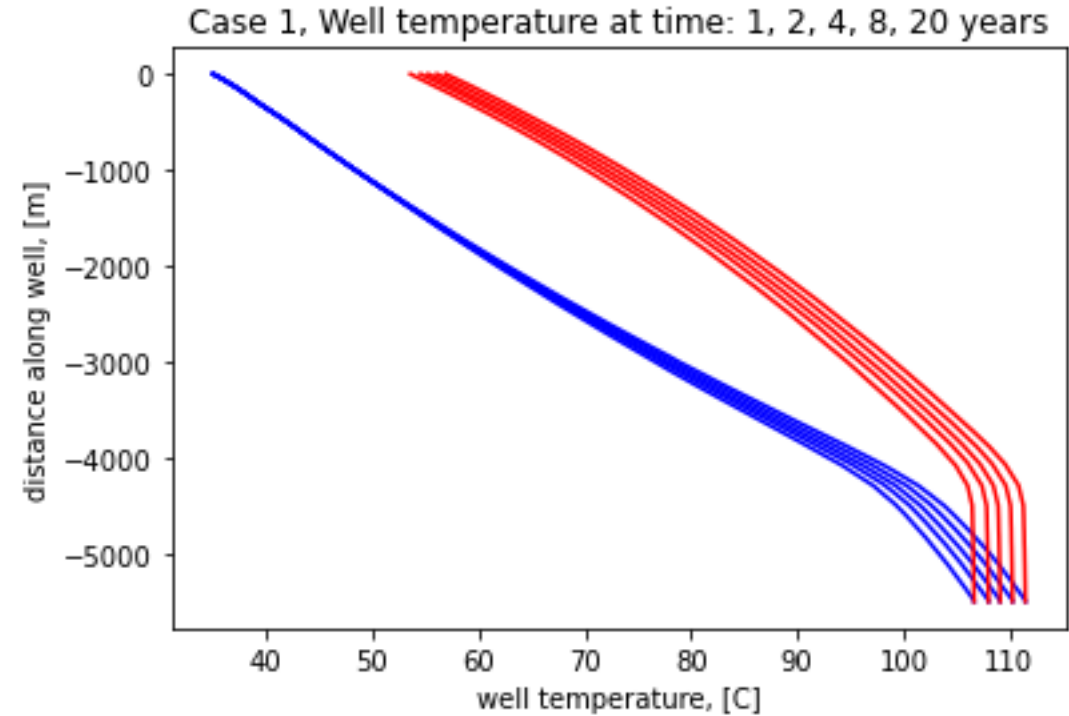
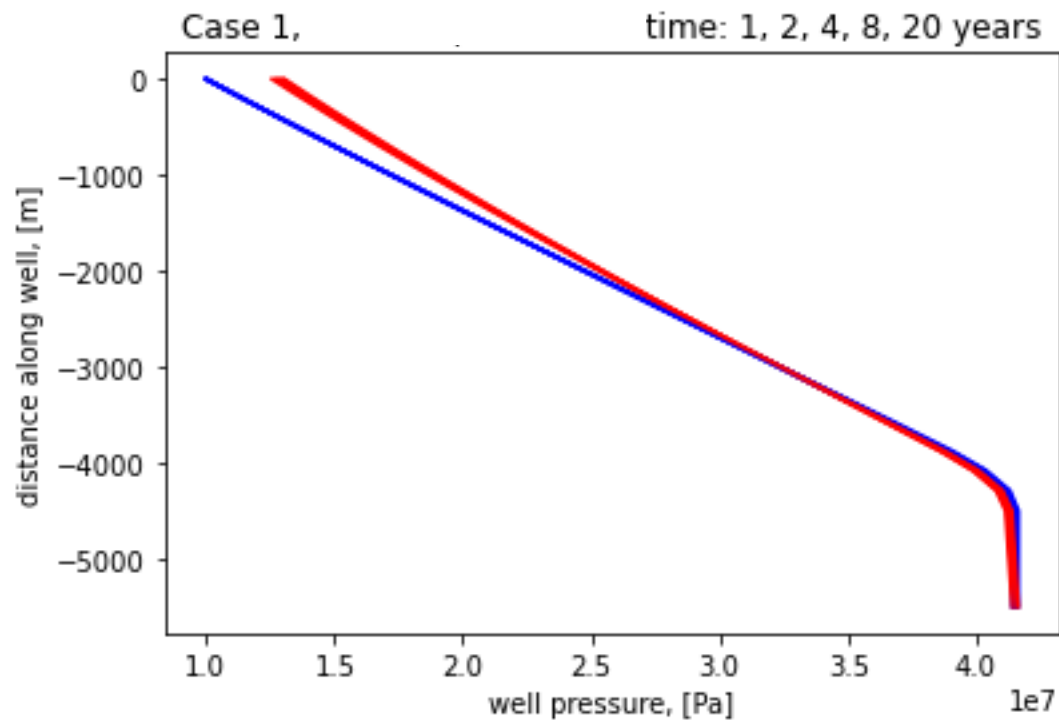
Case 1: 35 °C

Case 2: 45 °C

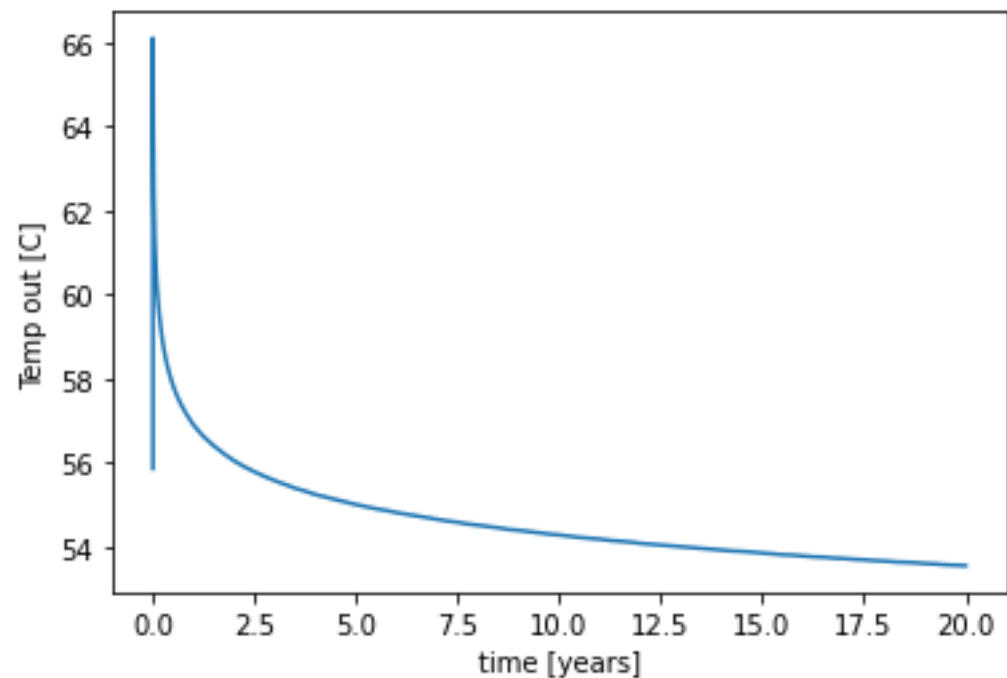
Case 3: 55 °C



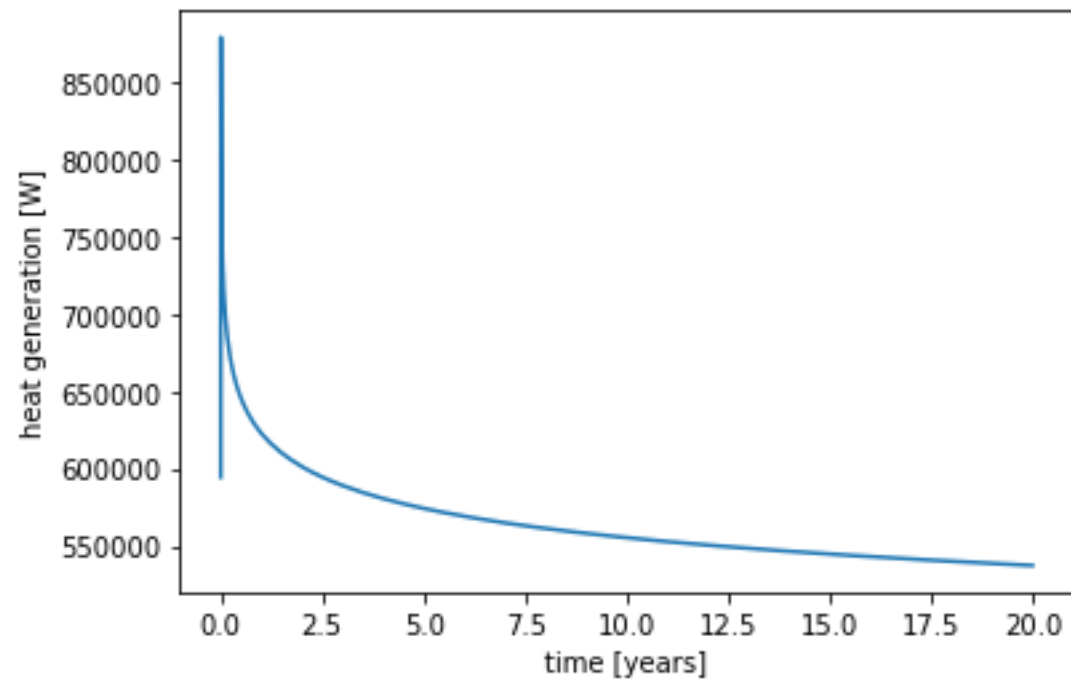
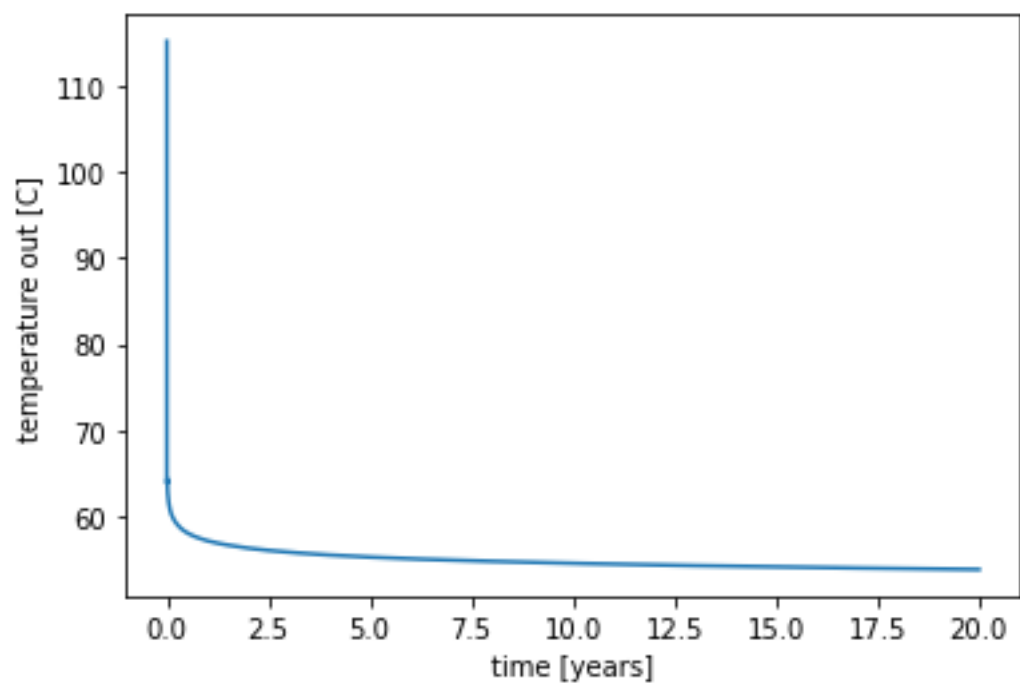
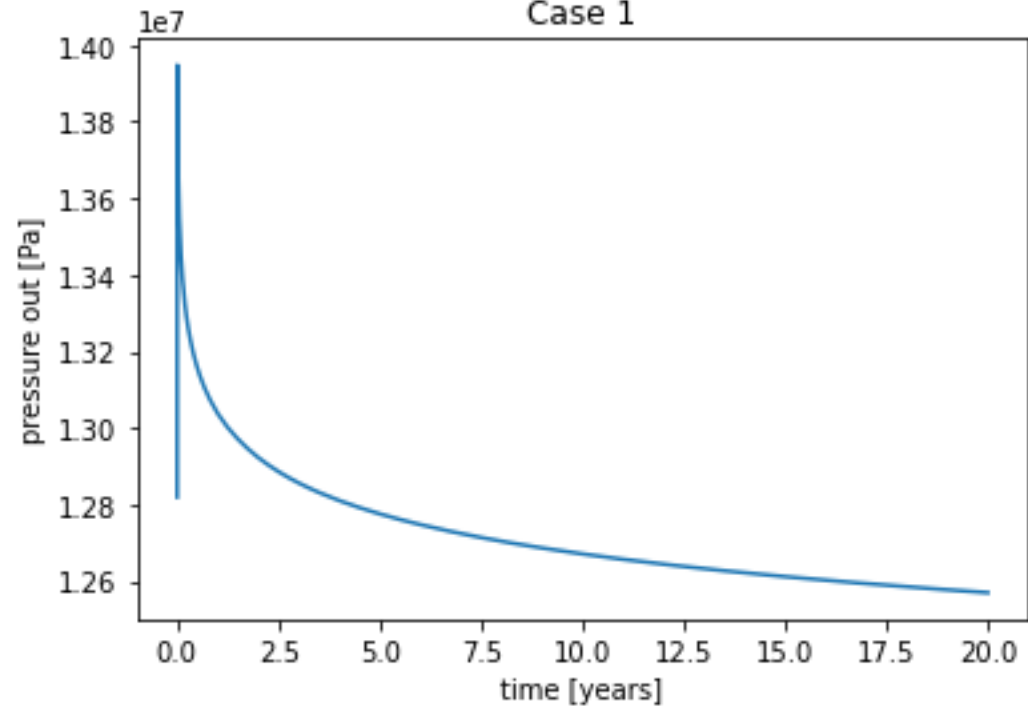
Case 1 – the same diameter throughout the well



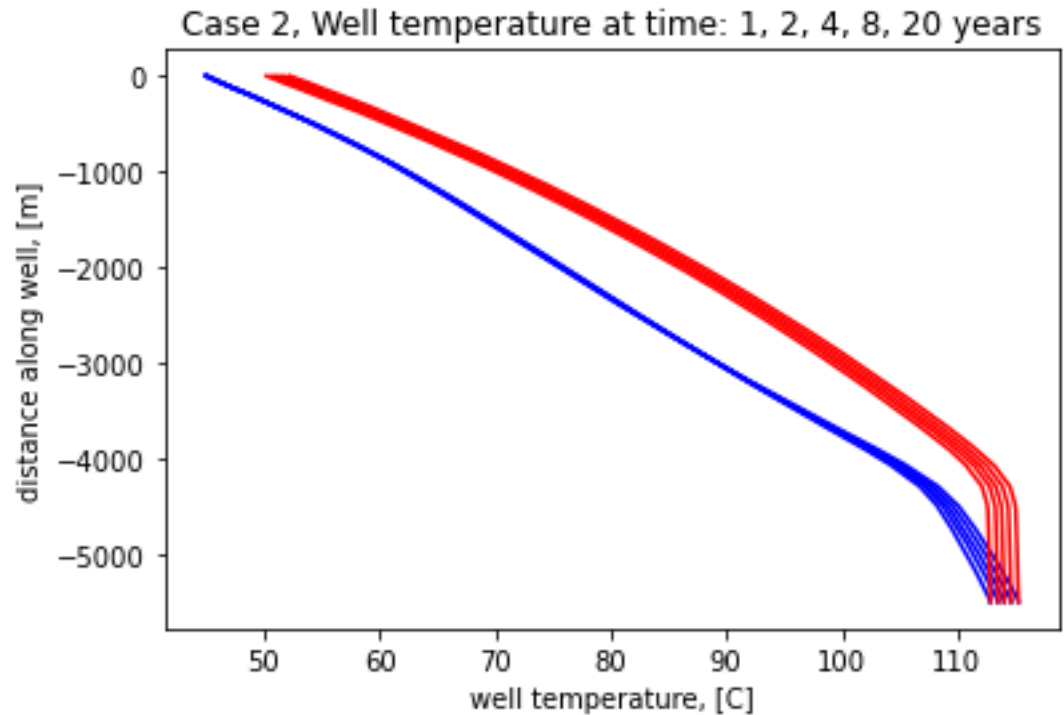
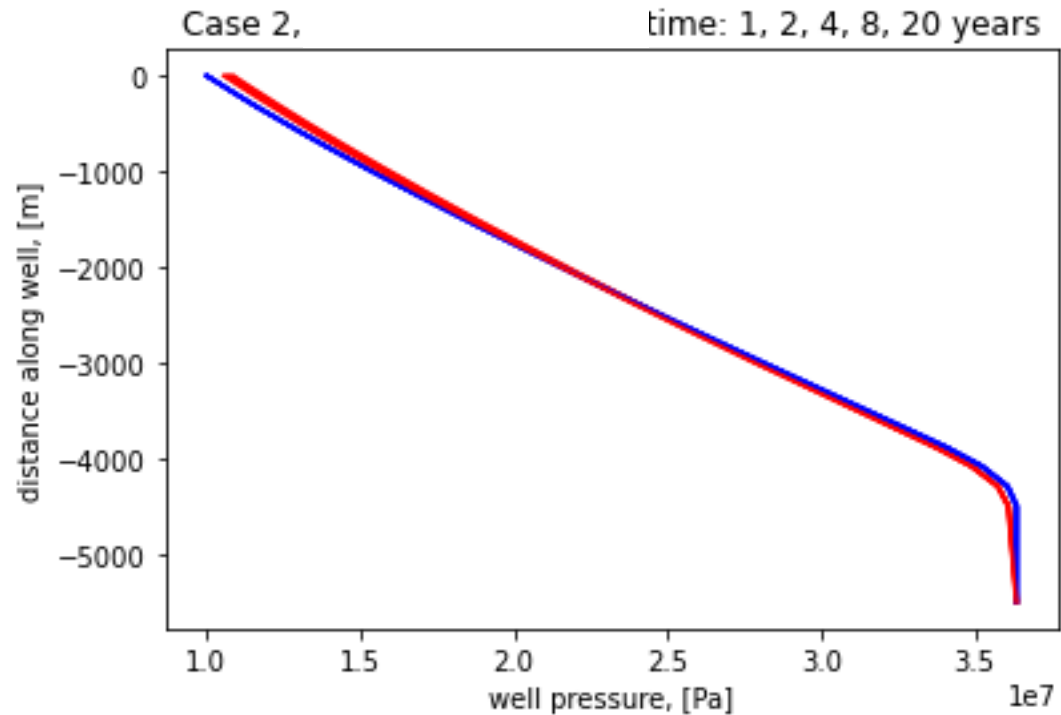
Case 1



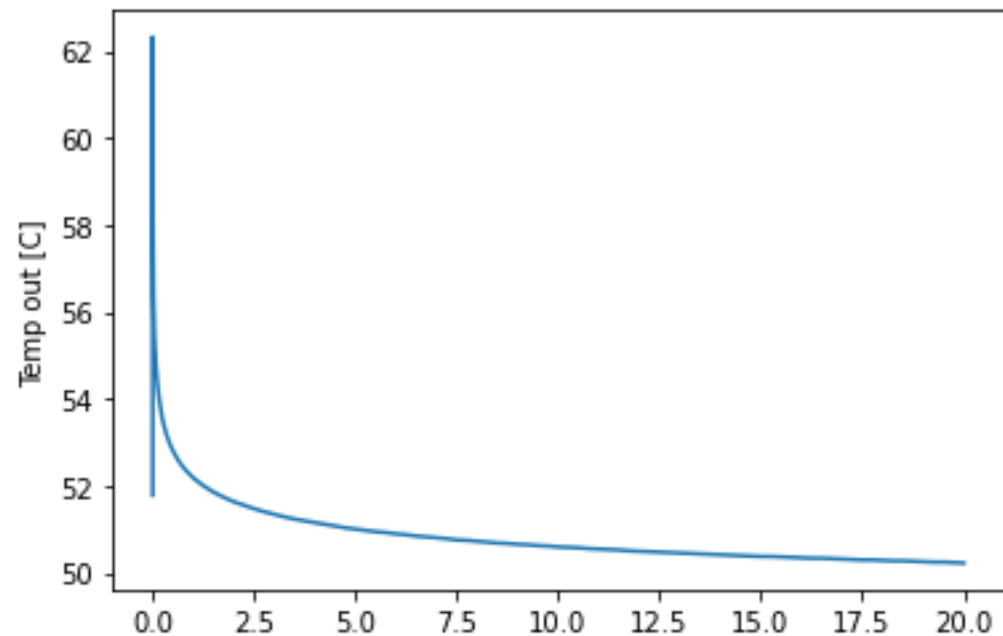
Case 1



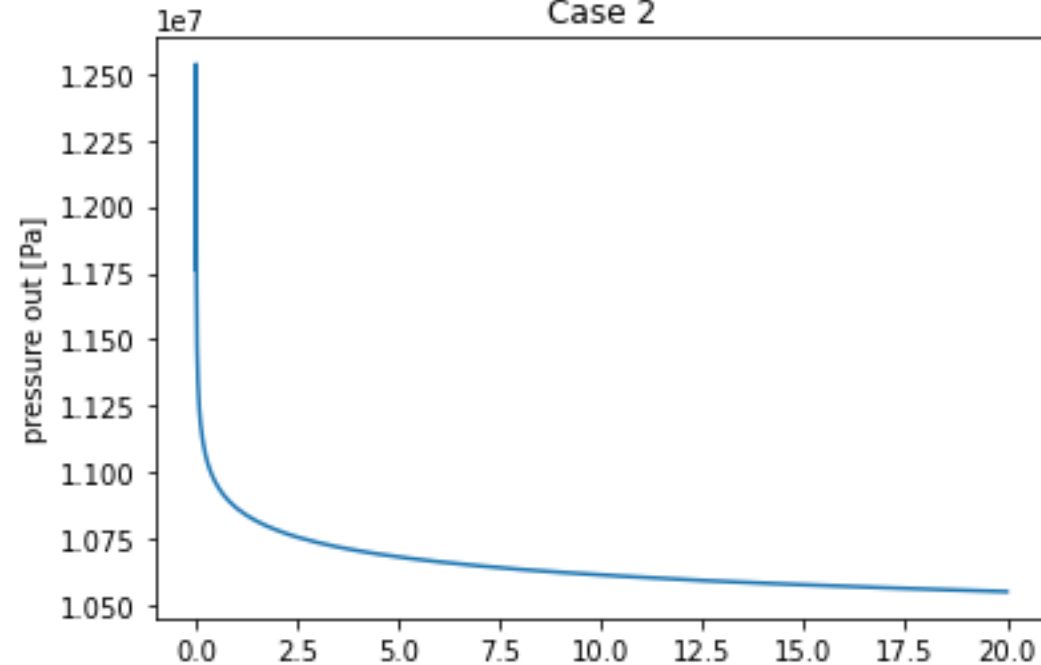
Case 2 – the same diameter throughout the well



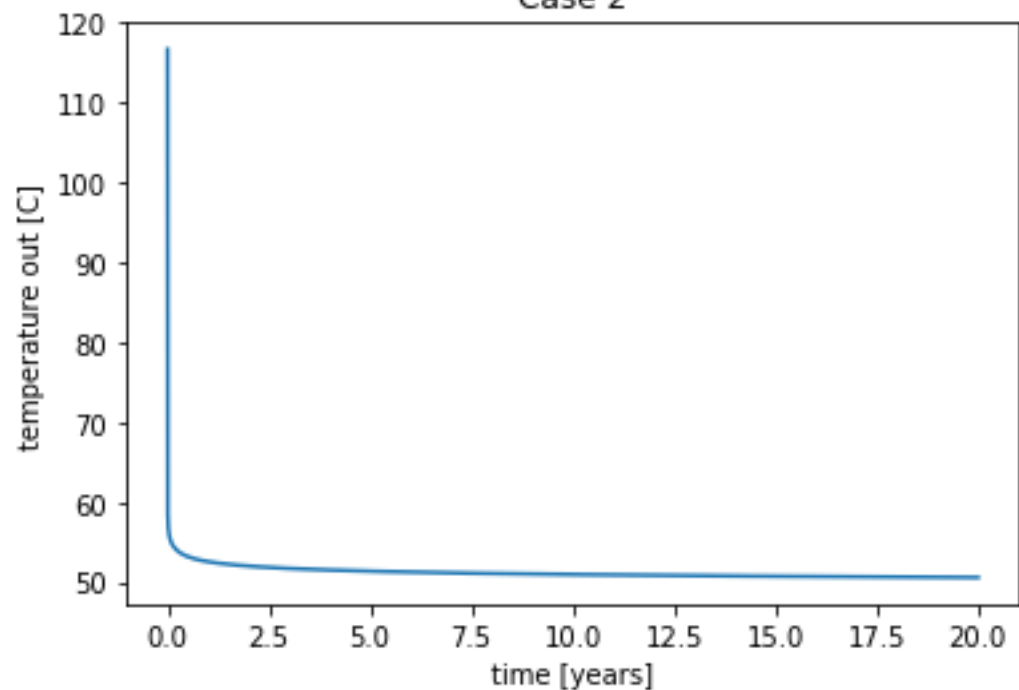
Case 2



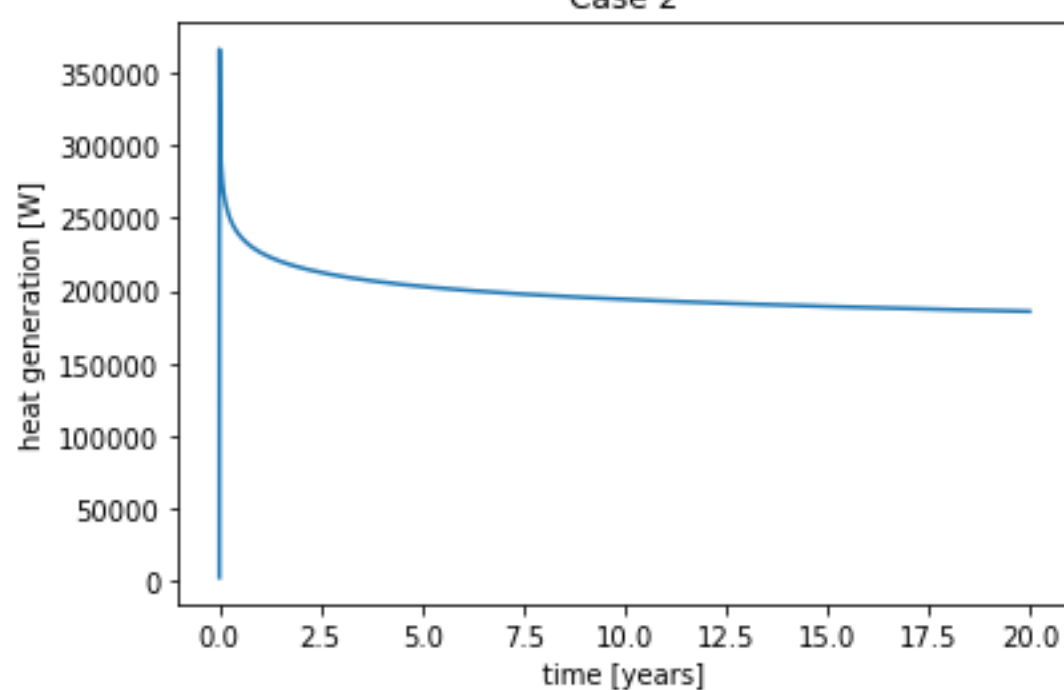
Case 2



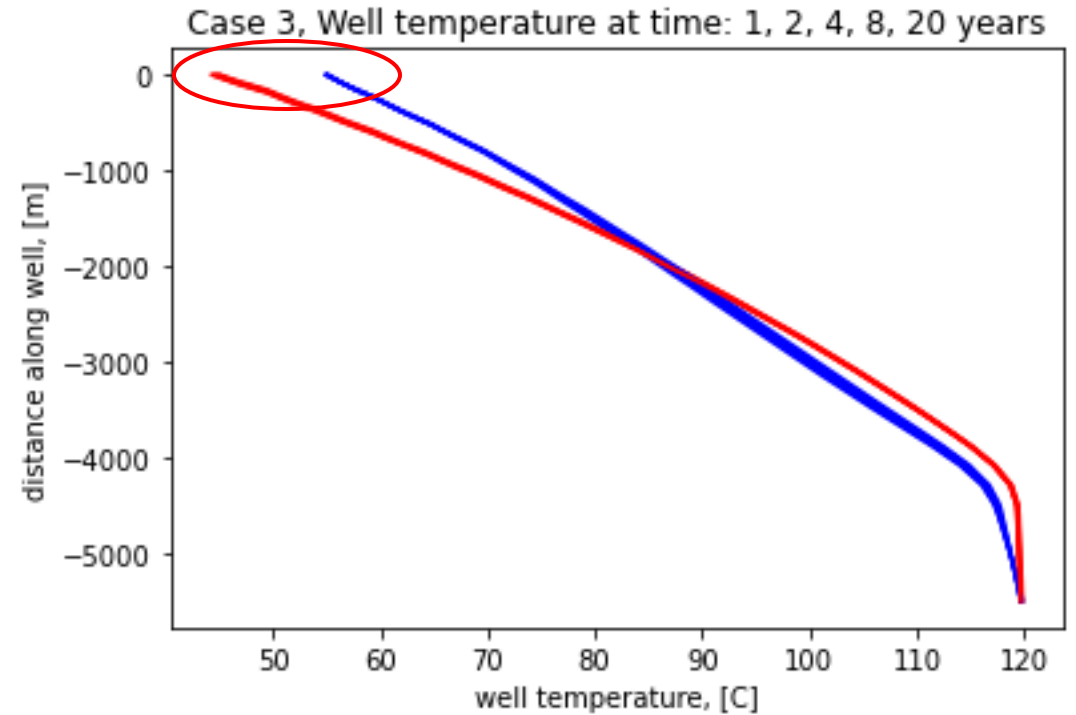
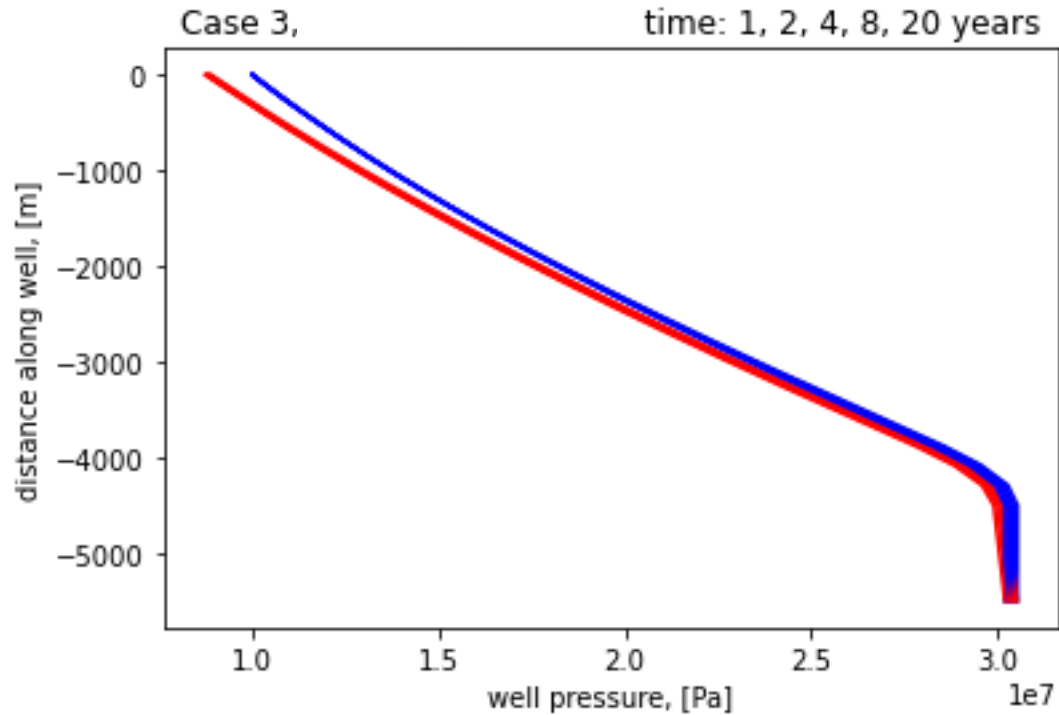
Case 2



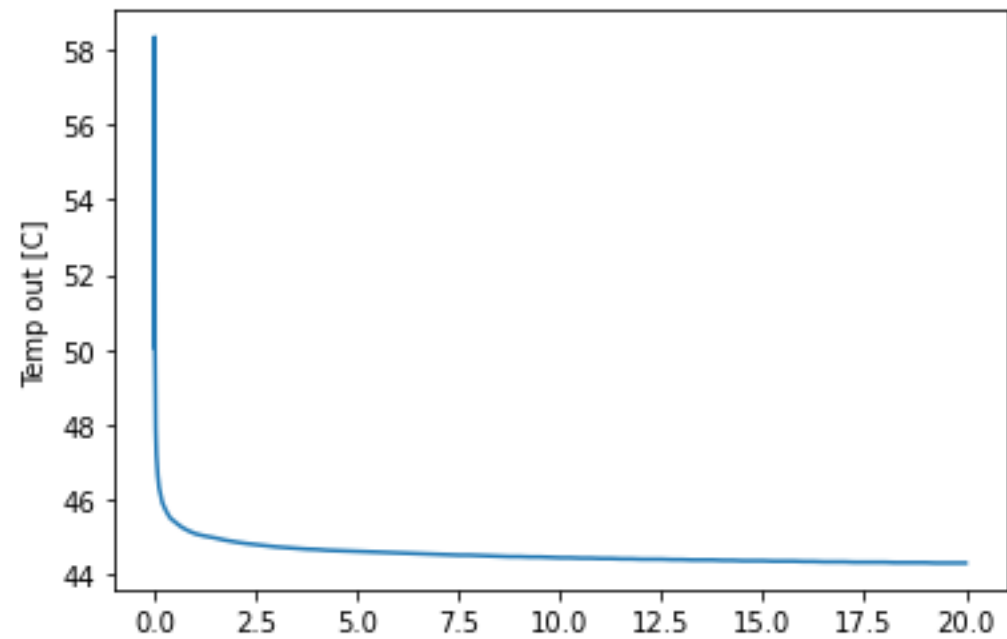
Case 2



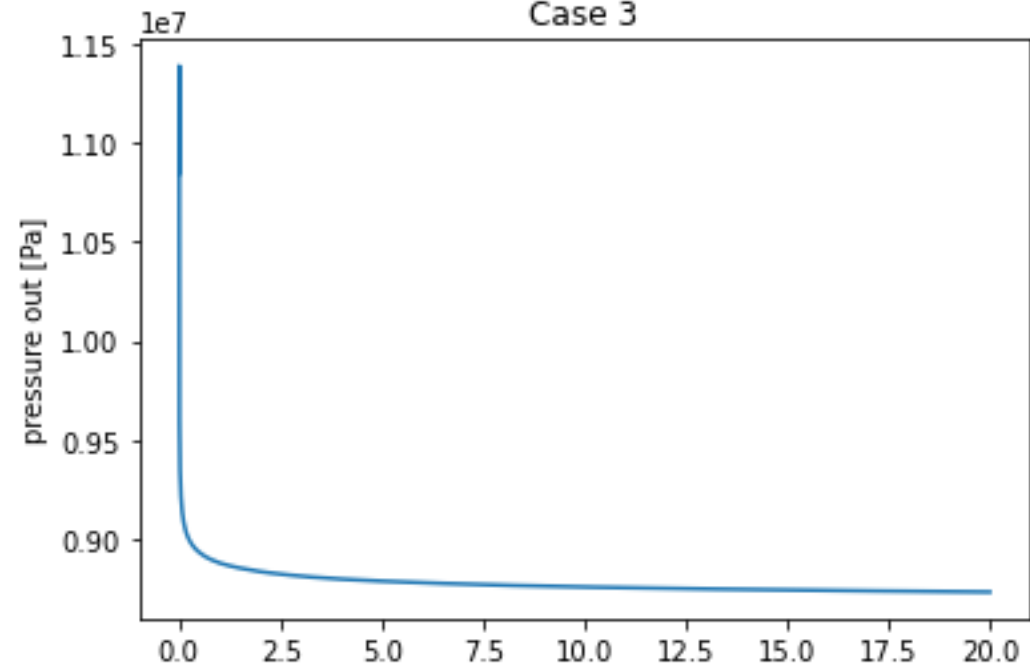
Case 3 – the same diameter throughout the well



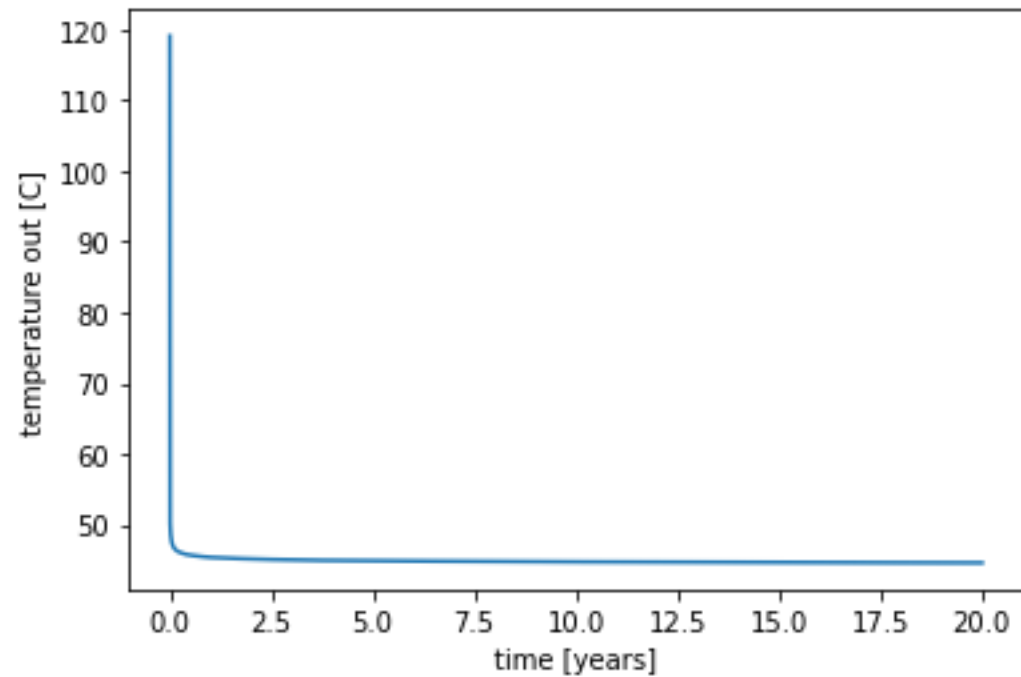
Case 3



Case 3



Case 3



Case 3

