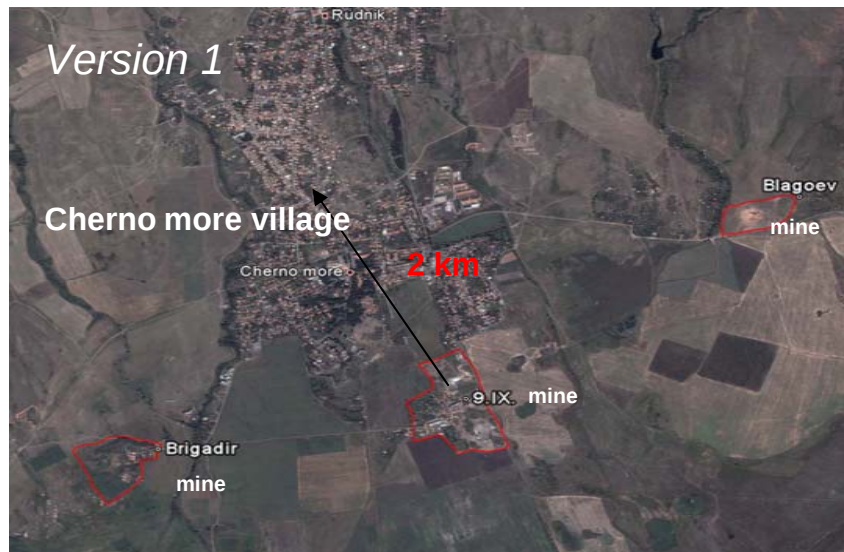


Temperature and pressure numeric modeling

Two versions
are set up:

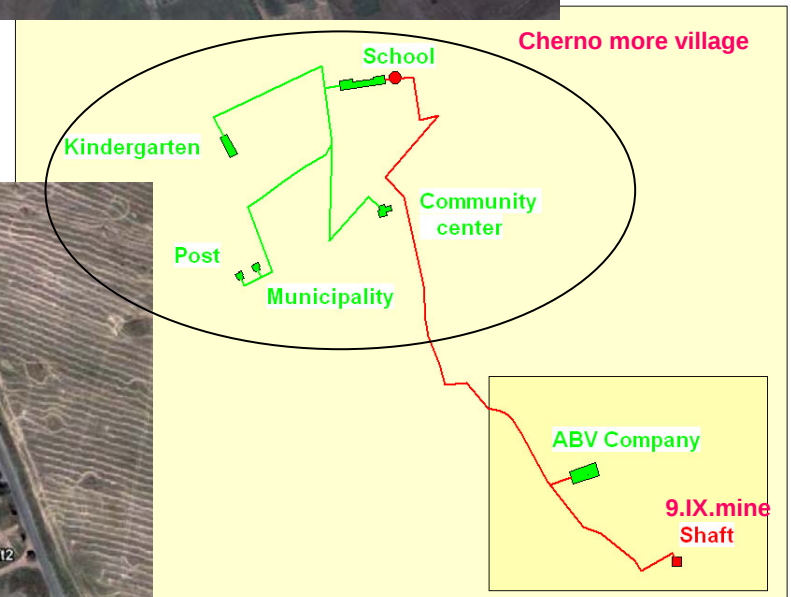
Version 1

- Mine water supply to public buildings in Chernomore village – **30 l/s**
- Water extraction from **Shaft1 (9.IX. mine)**
- Water injection - in **Brigadir mine**
- Distance between shaft1 and the village – **2 km**



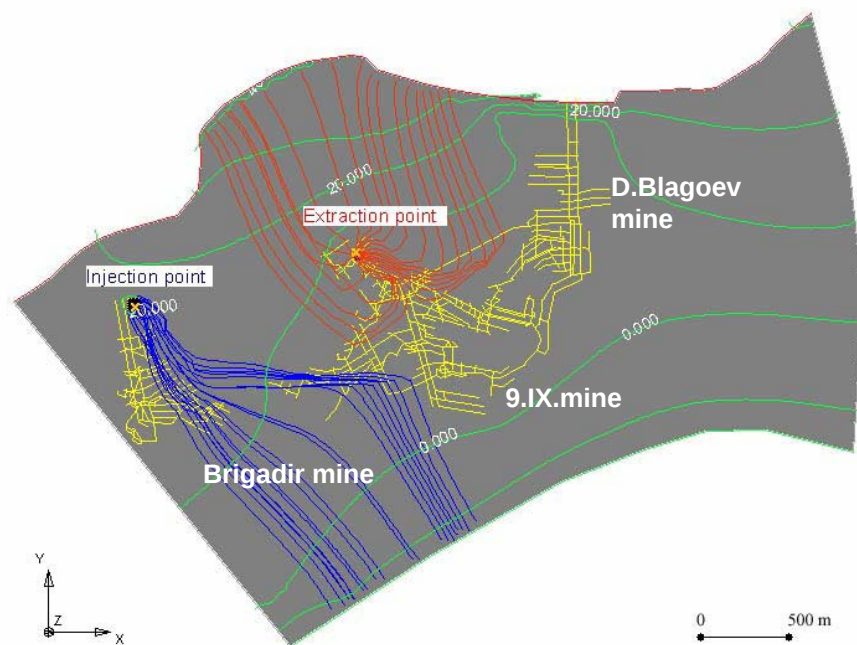
Version 2

- Mine water supply to ABV company with **2 l/s**.
- Water extraction from **Shaft1 (9.IX.mine)**.
- Water injection in **Shaft2 (9.IX. mine)**
- Distance between shafts and ABV factory – **250 m**.



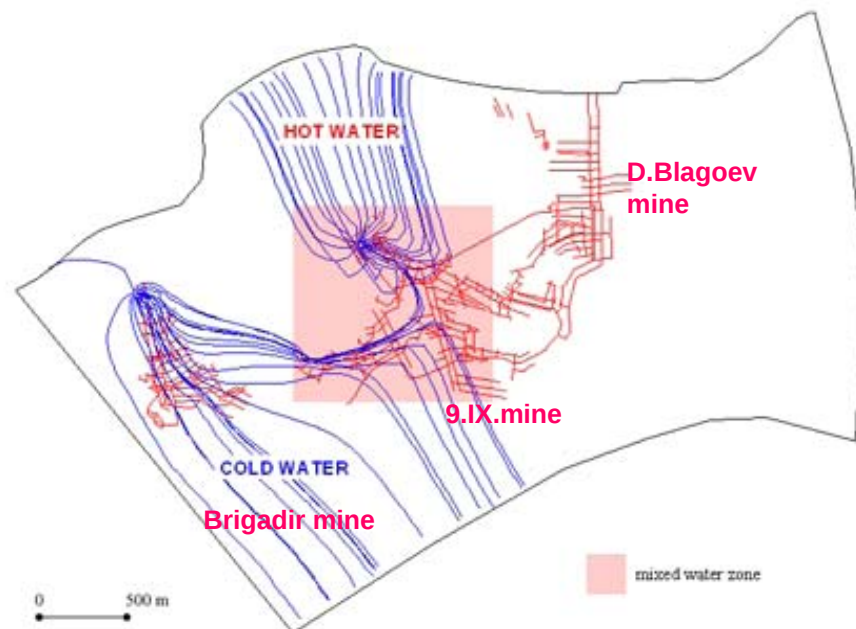
Particle tracking zones and flow distribution during exploitation

(Version 1)



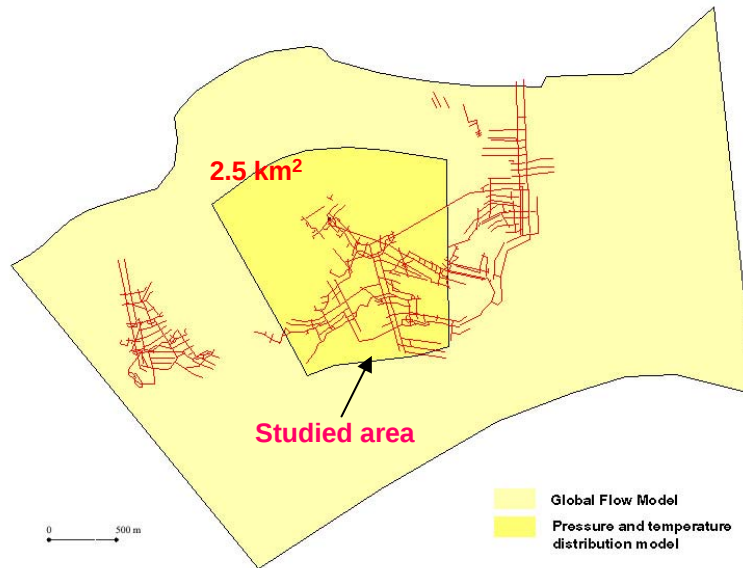
Extracted water from 9.IX. mine - 30 l/s.

In steady state there is no interaction between zones. Hence there would be no change of water temperature.



Extracted water from 9.IX. mine – 45 l/s.

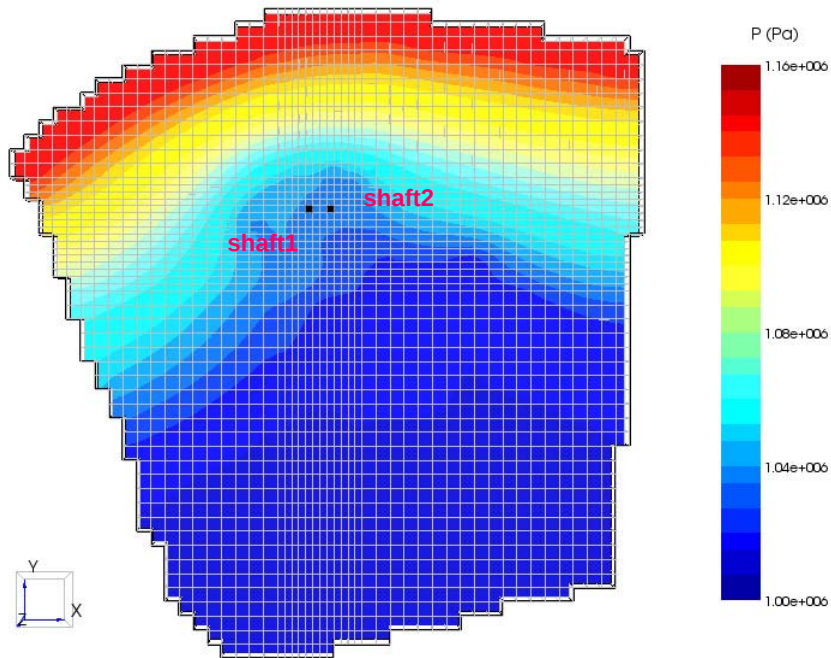
An interaction between the zones of production and injection will take place and this will result on the disturbance of system operation.



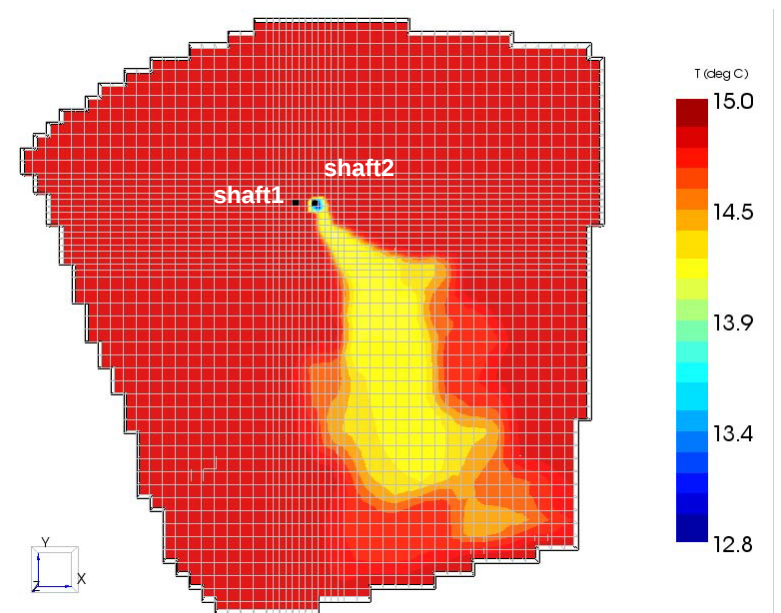
Pressure and temperature distribution during exploitation

(Version 2)

Pressure distribution



Temperature distribution



Steady state solution for a pumping rate of 2 l/s (shaft1) and injection in shaft2, 9.IX.mine.