

Some approaches to improve knowledge about subsidence processes in underground mining

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Subsidence prediction system in potash mining

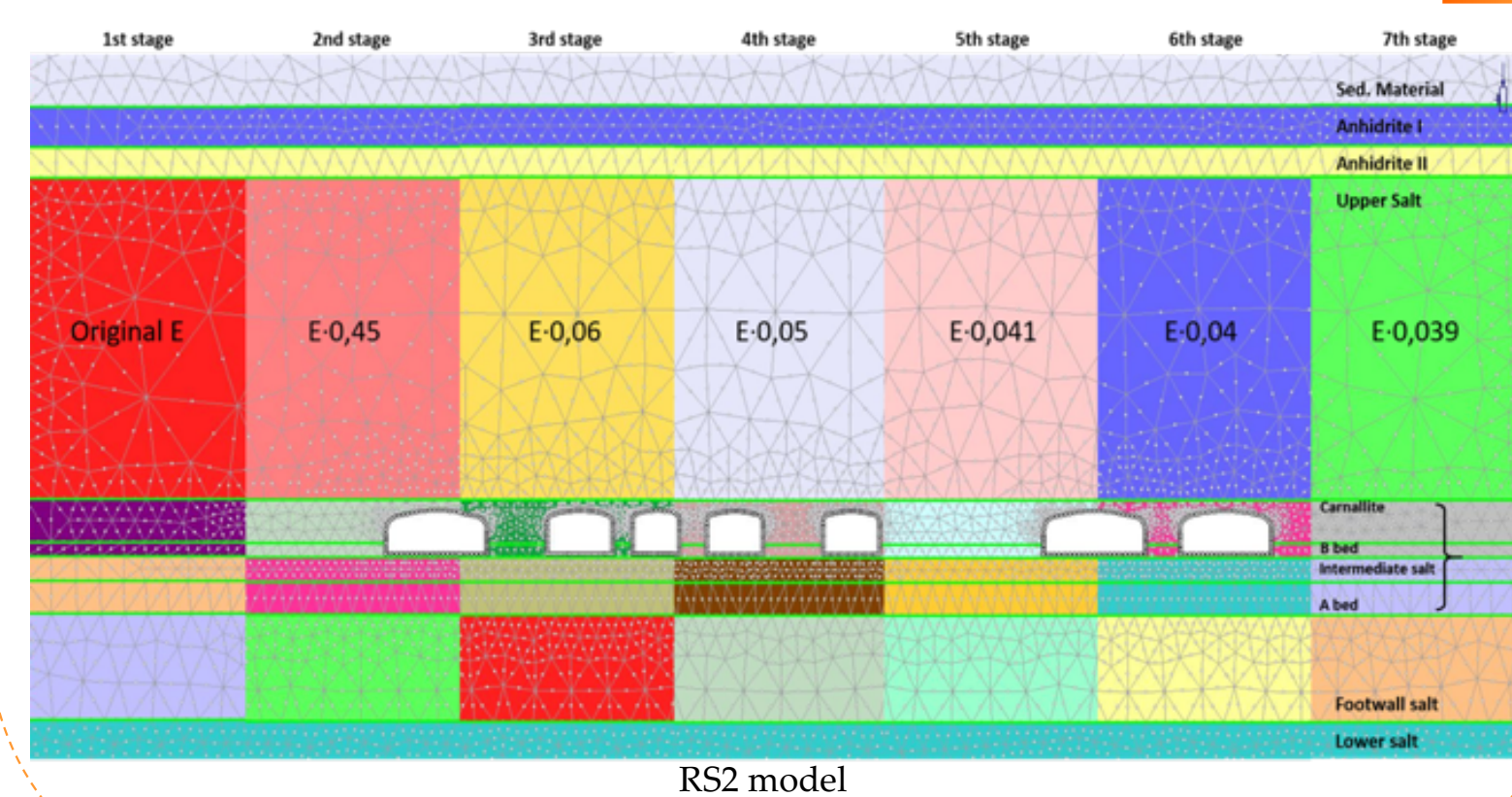
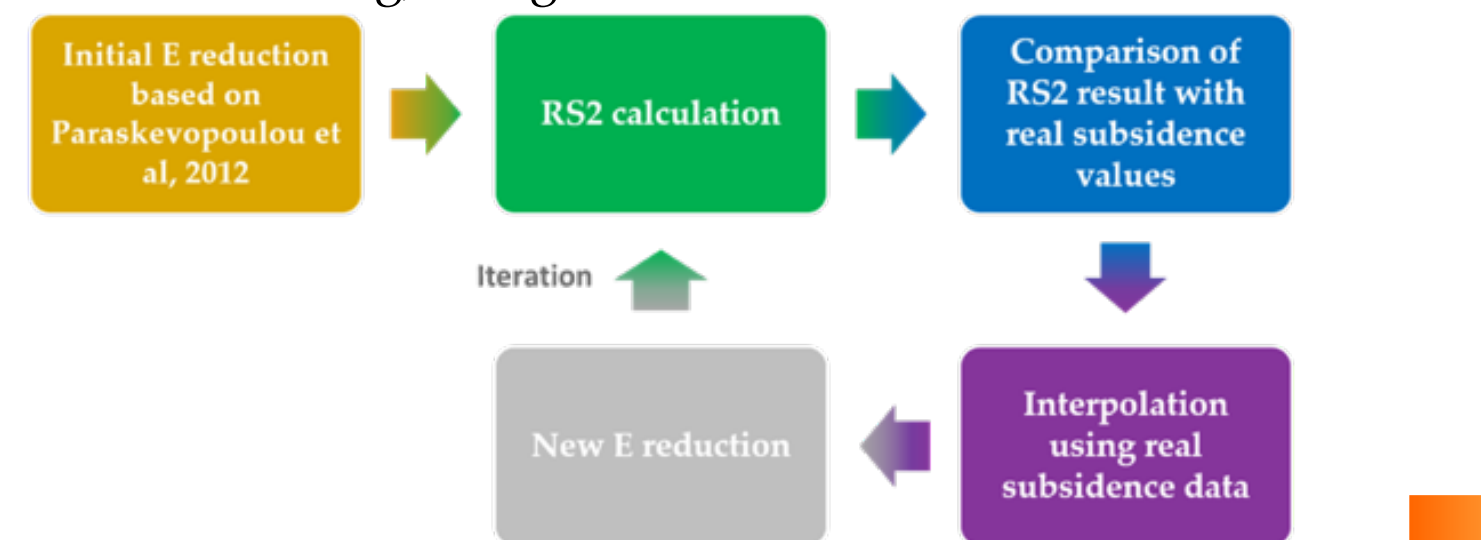
Pre-modelling process

A methodology has been developed to define the average surface subsidence profile.



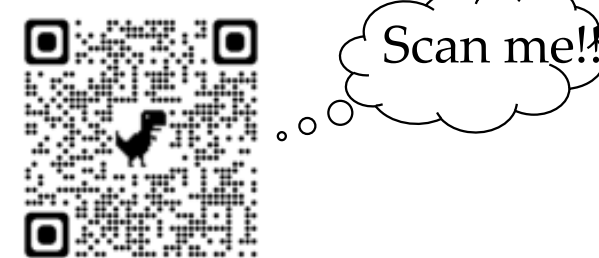
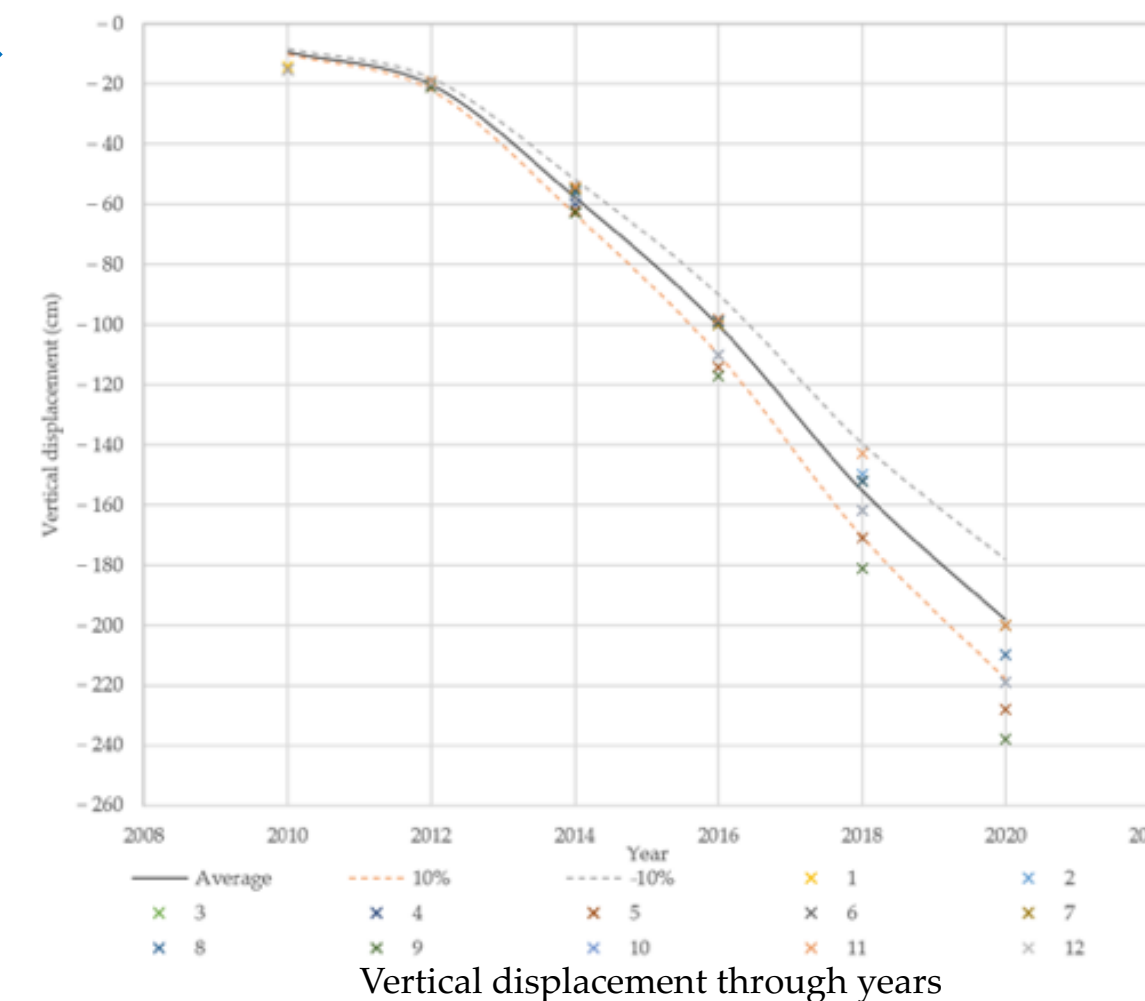
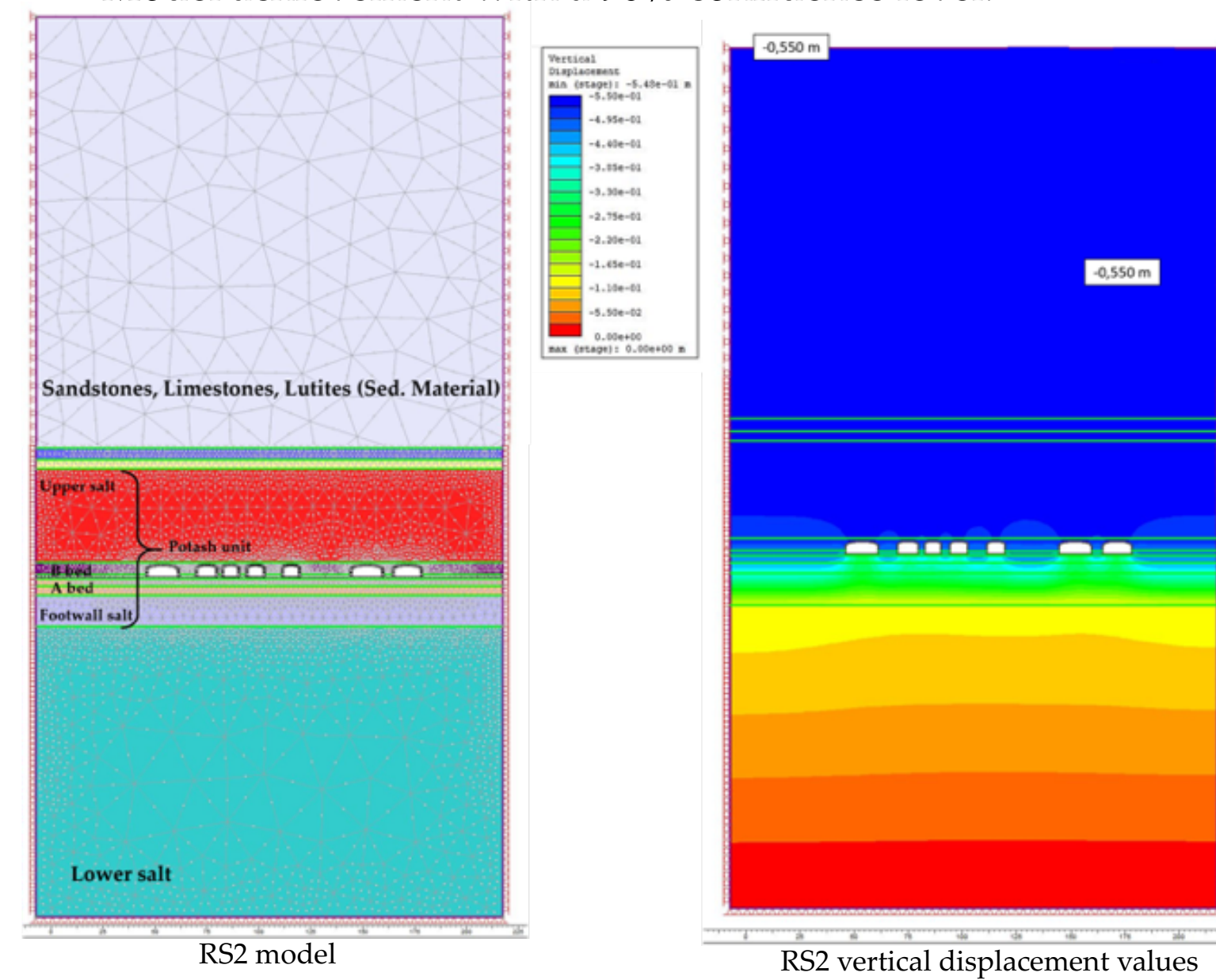
Modelling process

The numerical model was generated using indirect time-dependent behavior modelling, using the RS2 software.



Post-modelling process

- Subsidence and behavior of the geological materials were analyzed over the last 12 years.
- Model achievement with a 90% confidence level.



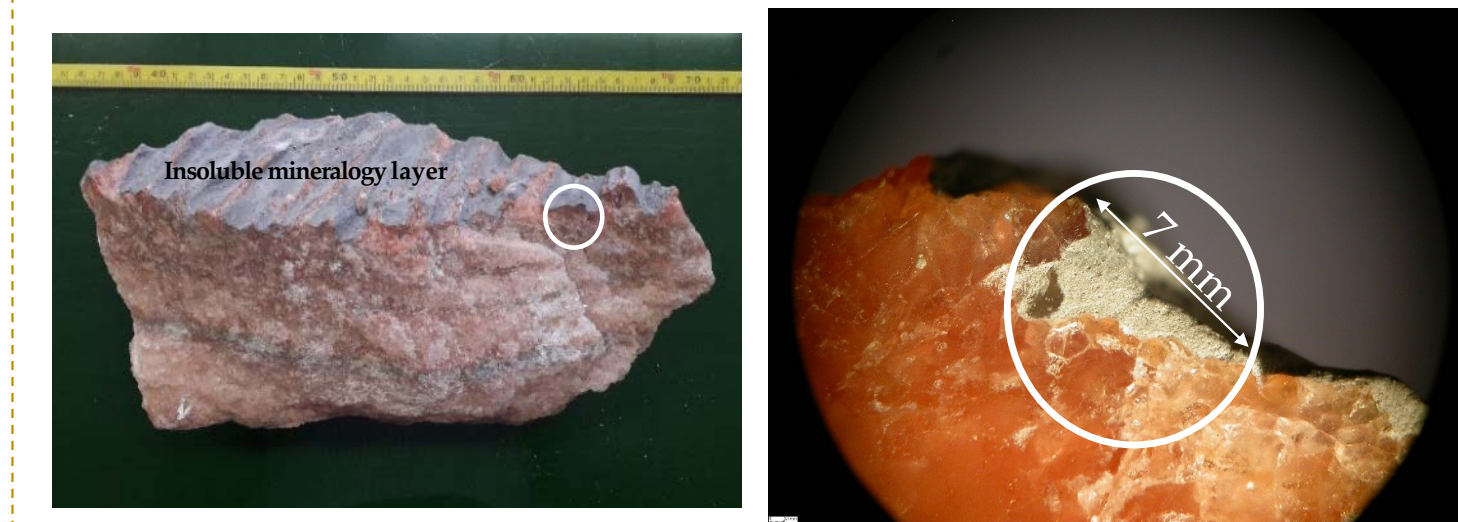
Current work

Statistical model

Working on a statistical model to find out which parameters have greater influence on the subsidence process in potash mining.

Insoluble mineralogies

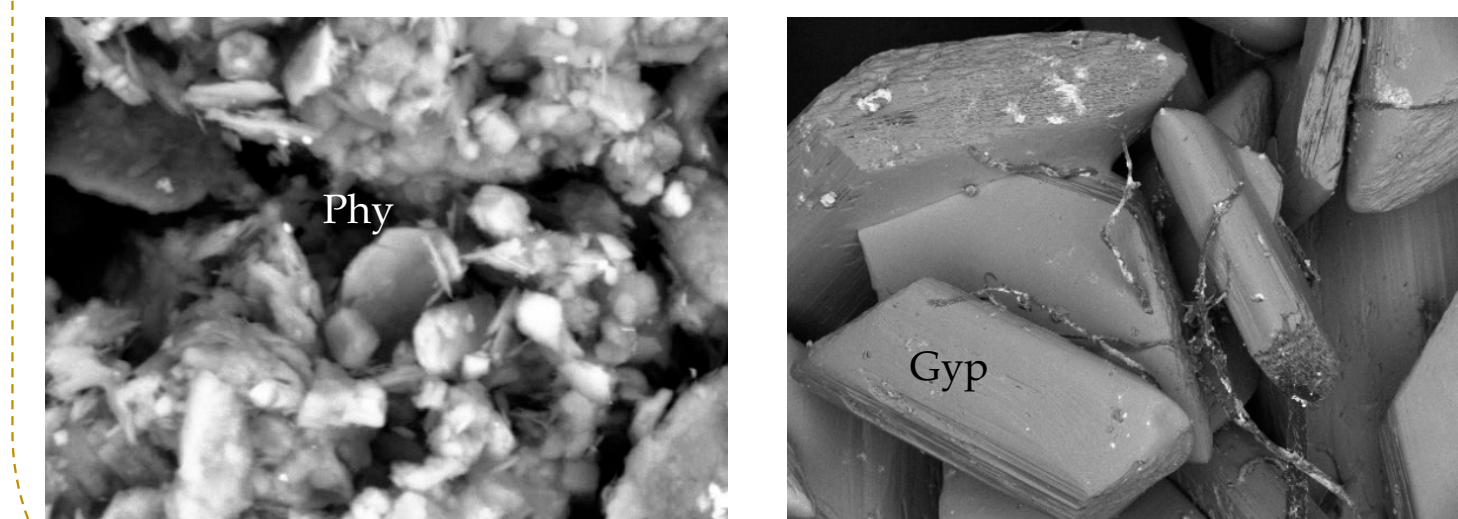
Carrying out geochemical characterization and textural analysis of insoluble mineralogies.



Saline sample

Minerals detected using X-ray diffraction

- Phyllosilicates group:
 - Chlorite family
 - Illite family
- Gypsum
- Iron oxides (small amounts)
- Quartz



SEM pictures

Acknowledgements

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