

# APPLICATIONS OF RHEOLOGICAL FINITE ELEMENT TO CAVERN FIELDS ANALYSIS

*by*

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## ABSTRACT

A finite element model based on the rheological concept is used to analyze the stability of cavern fields located in bedded and domal salt formations. Both dry and solution mines are studied. Comparison of numerical models with field data in terms of room closure, subsidence, roof deterioration and collapse, and cavern pressure buildup by plugging shows excellent agreement in widely differing ground conditions at various sites. The underlying concept that enables realistic modeling for a wide range of applications is explained.