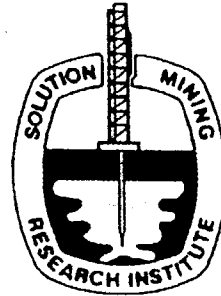


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**MEETING
PAPER**



**Geomechanical Load Cases for
Dimensioning of a Gas Cavern and
the Cemented Casing.**

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Abstract

Corresponding to the initial stress condition in the salt formation, the material behaviour of the rock and the boundary a model cavern with a cavity volume of about 600.000 m³ are designed in the depth interval between 900 - 1200 m.

On basis of the calculated stress situations the stability of the cavern under minimum pressure and the tightness of the cavern under maximum pressure are evaluated.

For the special load case „blow out“ with a real cavern internal pressure drop to atmospheric pressure special core investigations about the creeping failure behaviour are carried out and are used for the stability assessment.

The effects of minimum storage pressure and blow out on the last cemented casing and the cement bond are discussed by numerical calculation of the bond system casing - cement - saltrock.

The results are important for the determination of the required casing wall thickness and material grade and for the estimation of a cement bond failure due to blow out.

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