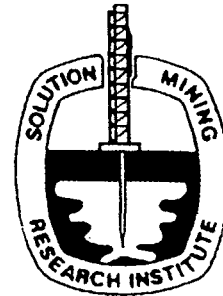


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**MEETING
PAPER**



**Field Test for Determining the
Convergence of a Gas Storage
Cavern under Load Conditions
Frequently Changing between
Maximum and Minimum Pressure
and its Finite Element Modelling**

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Introduction

Knowing the convergence behaviour is of major economic significance for operators of gas storage caverns with regular production, standstill and injection cycles.

At Ruhrgas AG's Epe storage facility in northern Germany, a field test was carried out on one of the caverns in order to determine the cavern convergence behaviour for different internal pressures.

Until then, convergence at caverns had only been measured in the upper pressure range (wellhead pressure of > 0 bar) or during a non-recurrent reduction in pressure by means of a borehole pump or by displacement with gas. The behaviour of salt subject to several loads with intermediate pressure-relief periods, typical for gas storage operations, had not yet been tested by means of field tests with real caverns.

Therefore, for the first time, this field test was extended over several storage cycles with their different pressures.

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