

# **The Results of the Pressure Build-Up Test in the Brine Filled Cavern Etzel K102**

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## **Abstract**

Following a long period of discussions and preparations the pressure build-up test in the cavern Etzel K102 started on September 3<sup>rd</sup> 1990. The objective of the field test was to obtain in situ data as a basis for an official approval procedure for the abandonment of salt caverns.

The paper gives an overview of the test conditions and the test results. An interpretation of the observed phenomena is updated to include the current state of knowledge. Remaining questions and future research requirements are discussed.

## **Introduction**

The main question of the pressure build-up test was to quantify the internal pressure in a brine filled cavern at the point of losing tightness. The state of knowledge during the layout of the test during the 80s was to induce a frac at slow pressurization rates obtaining gradients possibly higher than during hydraulic fracturing operations.

The boundary conditions were set to allow pressure increase rates with an acceptable time-cost ratio which could be extrapolated to longer time periods. The test equipment was designed to create a brine pressure gradient of