

**REQUIREMENTS ON THE LONG-TERM TIGHTNESS OF GAS CAVERN  
WELLS  
IMPROVEMENT AND POSSIBILITIES OF REPAIR IN THE CASE OF  
LEAKAGES**

*by*

**Fritz Crotogino  
PB-KBB Inc.**

*and*

**Hartmut Gomm  
Kavernen Bau- und Betriebs-GmbH**

**ABSTRACT**

In order to avoid gas losses for technical, economical, environmental and safety reasons, extremely high demands are placed on gas caverns with regard to long-term tightness.

The design of the casing, selection of casing couplings and the planning of cementation are factors which must be kept in mind. In order to avoid possible leakage, the installation and cementation of the last casing after reaching total cavern well depth require special care and attention.

The well is pressure tested for tightness after casing the borehole, and again upon completion of the cavern.

The present paper intends to describe the state-of-the-art in West Germany for the achievement and long-term assurance of gas tightness in salt cavern wells. Particular emphasis is placed on the discussion of design measures prior to the start of construction as well as on a new method for testing fully leached caverns using the storage product, natural gas.