

**GESO SOLUTIONCONTROL S –  
AN AUTOMATIC BLANKET-BRINE INTERFACE MONITORING SYSTEM  
FOR SALT CAVERNS**

Stephan Grosswig, Bernhard Vogel  
GESO GmbH Jena, Loebstedter Str.47b, D-07747 Jena, Germany

**Abstract**

The solution mining process for salt production in caverns must be controlled to reach an optimal yield, and to get a high mechanical stability of the built cavern. In order to prevent uncontrolled washing in the top of the cavern during continuation of the process, a so-called blanket will be filled into the cavern. Nitrogen or a special mineral oil can be used for it.

During the solution mining process the level of the blanket-brine interface has to change; therefore it's very important, to permanently know the exact position of it (depth), in order to be able to intervene.

An automatic Blanket-Brine Interface Monitoring System developed by GESO GmbH Jena in close collaboration with experts of the esco - european salt company GmbH & Co. KG, Werk Bernburg will be presented.

The Blanket-Brine Interface Monitoring System normally works over the whole period of the cavern leaching process while the sensing cable is installed in the borehole. It's possible to monitor up to 4 caverns simultaneously with one central processing unit.

The values of the interface depth in each cavern will be evaluated quasi continuously and are input into the SCADA system of the salt mine.

This first commercial GESO SolutionControl S system works in a cavern near Bernburg / Germany, and first experiences also will be presented.

**Key words:** Cavern Development, Cavern for Brine Extraction, Instrumentation and Monitoring