

Nitrogen Blanket Initial Operational Experience

by

F. Holschumacher
KBB GmbH
B. Saalbach
KBB GmbH
K. -U. Mohmeyer
PreussenElektra AG

1 Introduction

In order to achieve a properly controlled solution mining process and multiple stage leaching, a blanket is required. In Germany, the use of a blanket medium is a legal requirement.

The blanket medium must have the following properties:

- not dissolve salt
- be lighter than water
- be practically insoluble in water and brine.

Substances frequently used to date are liquid hydrocarbons, crude oil, gasoline and LPG. In isolated cases, compressed air and nitrogen have been used in brine production plants.

The increasing importance placed on environmental aspects and operational safety has resulted in the regulations on the use of liquid hydrocarbons becoming stricter in Germany.

In the case of LPG tanks, for example, the regulations require that the tank is covered with earth and is explosion protected. In the case of larger plant, a comprehensive permit procedure is necessary.

For these reasons, and for the first time, KBB, Hannover, has planned the use of nitrogen as a blanket at the gas storage cavern Neuenhuntrorf NK III. The brining of the cavern started in October 1993. This paper presents initial operational experience using the nitrogen blanket.