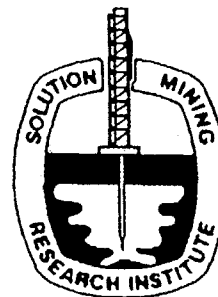


**SOLUTION MINING  
RESEARCH INSTITUTE**

1745 Chris Court  
Deerfield, Illinois 60015-2079  
USA  
847-374-0490

**MEETING  
PAPER**



**Creation of Tunnel Cavities  
in Rock Salt Beds of  
Small Thickness**

---

**Anatoly I. Igoshin  
Varazdat A. Kazaryan  
Anatoly G. Pozdnyakov  
Vladimir I. Salokhin  
Yury S. Vasjuta**

**PODZEMGAZPROM  
1, Kurchatov Square  
123182 Moscow, Russia**

Presented at the Spring 1997 Meeting  
Cracow, Poland  
May 11-14, 1997

## ABSTRACT

The presence of small thickness rock salt deposits in the places of possible location of the hydrocarbon underground storages results in necessity of development of tunnel type cavity construction technology based on the water solving method through wells.

It is considered the schemes of creation of caverns as through one vertical-horizontal well so through two wells: a vertical well and a vertical-horizontal well which are corrected between themselves.

The obligatory condition of construction is creation of underground caverns with the same cross section area along a length and with a arch type roof.

It is discussed shortages and advantageous of various technologies of creation of tunnel type underground cavities: by “receding areas” method at which a point of input of solvent is removed at the expense of drawing up a water feeding string; by “wash out zone of constant length” method at which a solvent input point and a brine output point are staying invariable during the entire period of construction.

Many experiments have been conducted on small and large models that permit to set experimentally the regularity of development of tunnel cavities.

The methods of numerical modelling of formation of tunnel caverns in rock salt have been developed. Concrete examples of calculation of technological parameters of construction of such caverns are presented.

©2023 – Solution Mining Research Institute  
Full Paper is Available in the SMRI  
Library([www.solutionmining.org](http://www.solutionmining.org))