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LEACHING OF CAVERNS IN STRONGLY FOLDED AND HETEROGENEOUS SALT – CASE STUDY AT THE KRAAK DIAPIR

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Abstract

The purpose of this paper is to present the experiences gained with the leaching process at the Kraak cavern site in the years from 1997 until now.

The leaching process at Kraak cavern site is highly influenced by the complex geological situation. Inhomogeneous salt leads to the development of irregular cavern shape. Variations in azimuth, dipping and leaching velocity of salt layers intensify this process.

Cavern Kraak 101 was solution mined from 1997 to 1999.

The entire leaching process was dominated by intensive efforts to develop the shape of the cavern in such a way that a sufficient and geomechanically stable volume could be achieved. The duration of leaching steps was reduced and therefore the number of surveys had to be increased.

The cavern Kraak 101 shows an irregular shape but without major restrictions from the geomechanical point of view.

Based on the experiences with cavern Kraak 101 several conclusions could be drawn which were taken into account while leaching the following caverns.

Cavern Kraak 102 will get a considerable higher geometrical volume regardless of similar complicated geological conditions.

The third cavern is currently under construction, additional caverns are planned.