

Subsidence Phenomena over Solution Cavities in Bedded Salt

by

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SUMMARY

The subsidence process over solution mined cavities in the bedded salt formation of the Hengelo area, the Netherlands, can generally be subdivided into three stages:

- Physico-chemical deterioration of the roof formations
- Stoping and forming of a chimney
- Subsidence on the surface

From several observations in the geologically very uniform situation of the Hengelo brinefield we have learned that the subsidence phenomena on the surface can differ from place to place. We have noticed very slowly developing subsidence bowls, rapidly developing bowls and even a sinkhole. But they have one thing in common and that is that the subsidence at the surface will start many years after solution mining has stopped, the cavity has been abandoned and the well has been closed by cementation of the bore hole.

With the help of a three-dimensional high resolution seismic survey of the area we are trying to construct a model to explain the differences in subsidence behaviour and to forecast the subsidence character of future suspected areas.

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