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**„Conceptional development of long-term reliable gateside barriers for underground dumps in saliniferous formations – Construction and test of the barrier construction under real conditions.“**

This investigation will develop a long-term reliable, tight and stable barrier construction in saliniferous formations, which is at one side has to be for maintenance-free and sturdy and at the other side can be built economically at the technique existing at present. The safety potential of this construction should increase by time.

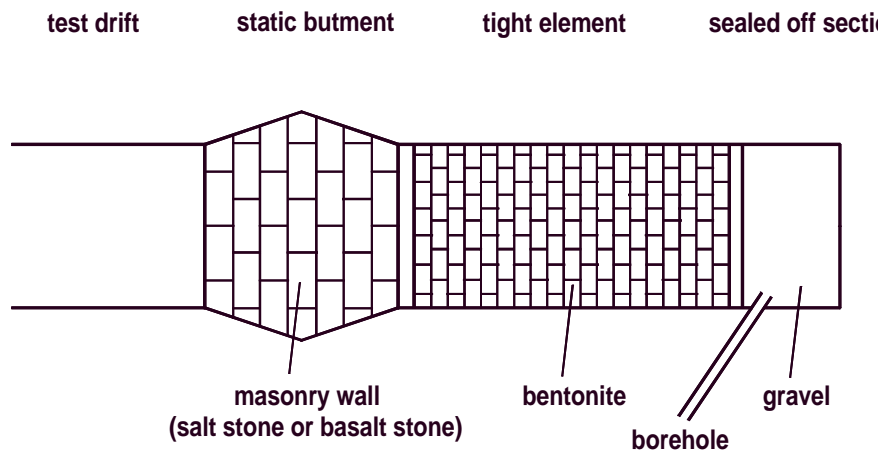
The gateside barriers are very important for a long-term lock of an underground dump against the biosphere. For the seal of these areas various problems arise due to the mine layout being developed for the time of production.

The barrier construction has to be built close to the area of the underground dump. During construction of the barrier cracks within the hanging could occur, because of the negative effect of gravity. The whole construction will be built under difficult conditions in a small drift. The long-term qualities of all the materials used for the construction have to be studied by natural analogues.

In the past concepts of sealing constructions were developed and built in the mining industrie, which are characterised by

- separation of static and tightening tasks,
- controlled distribution of the load,
- consideration of hydraulic and mechanical properties of the rock and the
- use of clays and/or asphalts.

The experimental program involves an in-situ test site in a salt mine under working conditions. While the test construction will be exposed to various load-situations it will be monitored by an extensive monitoring program. The forces and the stress within the construction and in the contact-area to the host rocks will be measured, as well as the displacement of the construction and the drenching in the sealing-system.



In-situ test barrier