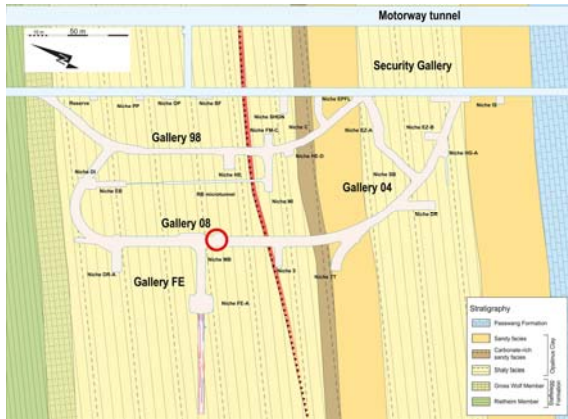




## 7 A 1:1 demonstration experiment



**Objective:** This involves a heating experiment under realistic conditions with three canisters. The aim is to measure the heat yield from bentonite and opalinus clay, and simultaneously determine the saturation of bentonite. The readings are then to be compared with the initial forecasts.

**Procedure:** Construction of a start niche, excavation of a storage shaft (length, 50 metres; diameter 3 metres). Sinking and installation of observation boreholes. Construction of canisters (1:1 in size, with interior heating element). Placement of canisters on bentonite blocks, installation of measurement sensors around the canisters.

**Filling of space between the canisters and the rock with bentonite granulate, sealing of shaft with concrete cap.** Initiation of experiment: heat pulse from canister into bentonite and opalinus clay, simultaneous natural saturation of bentonite (from rock in direction of canister). Long-term measurements, over a period of at least 10 years.

**Results:** Successful filling of bentonite around the canisters.

**Commencement of project:** Excavation in 2011, commencement of heat experiment, March 2015

**Conclusion of project:** After 2025

**Project partners:** NAGRA + ANDRA + CHEVRON, financial support from the EU (LUCOEX Euratom)

**Costs:** >10 million Swiss francs