Background

At part of hydropower development at Tosbotn several shafts are being excavated. One of these is a 250 m long, 45° shaft with diameter 1.5 m that was excavated by raise-drilling at Bjørnstokk and completed in 2015. The engineering geological conditions were very challenging with sections containing weak rock mass and swelling clay. More shafts will be excavated at Tosbotn, and the main purpose of this master-project is to analyze the engineering geological conditions for the shaft at Bjørnstokk, and to use this information for evaluating the probable conditions of remaining shafts.

The work includes engineering geological mapping at the surface and underground, sampling and laboratory testing of rock and gouge materials. Analyses are being carried out based on observational, empirical and numerical methods. The MSc-work is carried out in cooperation with Implenia, with Bård Kristian Flore as external co-supervisor.