

SBU – Theme of Geotechnology

Abisko-Meeting

March 4-6, 2015



For three days in early March 2015, 18 Ph.D-students and 4 supervisors met in Abisko National Park for a meeting under the flag of Geotechnology, a sub-theme of SBU (Swedish Universities of the Built Environment).

The meeting was held at Abisko Scientific Research Station, just outside Abisko village, about 200 km north of the Arctic Circle. The station is managed by the Swedish Polar Research Secretariat, and topics such as climate change and climate impact are examples of research taking place here.

Due to a pilot strike that was initiated during March 4, there were some disturbances in getting to the meeting from southern parts of Sweden. Unfortunately there were three participants of the 25 registered that had to cancel their participation due to this reason.



Abisko served up with snow, bright skies and magnificent views over the landscape. For those arrived in Abisko during the afternoon, a dinner was eaten at Abisko Mountain Lodge, followed by a short presentation round back at the research station. Accommodation was also arranged at the research station.

On Thursday March 5, the day started with a self-catered breakfast, followed by an all-day meeting with presentations. An introduction to SBU and the theme of Geotechnology including road engineering was given by Gerhard Barmen, theme group leader and lecturer at Lund University. Presentations were also given by Sven Agardh (lecturer Lund University), Denis Jelagin (lecturer KTH) and Sven Knutsson (professor LTU) regarding research in the geotechnological and road engineering field at the member universities. A summary to the same at Chalmers, was given by the three Ph.D-students Jonas Sundell, Yanling Li and Robert Anderson.

The stage was then given to each participant for approximately 15 minutes, where research projects were presented and discussed.



Within the group, the fields of research varied. Examples of topics that were covered during the day were:

- Geohydrology
- Geophysical methods for soil, or bounded materials in roads
- Frost action in roads and stabilized masses
- Managing and simulation of tailings and mine waste
- Numerical modeling of soil, granular materials in roads, and soil interaction with piles

The presentations were all interesting and well presented.



On Thursday evening, the dinner was cooked together by the participants in the kitchen at the research station. For some of participants the night ended with sauna and snow-bathing.

On Friday morning, the group travelled by bus to Kiruna and the office of LKAB. Here a presentation was given by Nina



Eliasson, architect and strategic planner at LKAB, regarding the Kiruna City transformation. Due to the underground mining in Kiruna, parts of the city are affected by large surface deformations. Therefore, the Kiruna city is subject to a transformation where the city center has to be moved 3 km away from today's position.

The Friday's lunch was eaten at the LKAB restaurant Magnetiten, before the group headed down to the underground mine for a second study visit. After a bus ride to the infomine at the 540-level, i.e. 540 meters underground, our guide gave an interesting tour with information about LKAB, its history, mining operations and activities both above ground and underground. It was a good tour and was highly appreciated.

After 2.5 hours underground, the group reached the ground surface and got a view from Kirunavaara over the mining area and the zone disturbed by surface deformations towards the city center of today. A bus then took the participants to either the train station or the airport, where travelling, either home or for skiing purposes was on the program. The Geotechnology meeting for 2015 was ended, after three interesting days in the north.

Invitation, program and list of participants are attached.

