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Title: *Lithological features of Ebba glacier ice-cored moraine (central Spitsbergen, Svalbard)*

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Ebba glacier (Ebbabreen) is situated in Ebba valley, in Petunia bay, which constitute northern part of Billefjord system (central Spitsbergen).. Since the end of Little Ice Age Ebbabren, like other glaciers on Svalbard, is in recession stage. An ice-cored moraine was formed in the result of this process It was investigated in terms of selected lithological features during summer 2012.

Ice-cored moraine has a hummocky character with maximum ridges about 20-25 m of height. This landforms altered with temperatures above 0°C in summer seasons undergo melting of ice core, predisposing occurrence of landslides which are numerous in investigated area. Due to landslides, niches are exposed in upper parts of slopes. They are marked in morphology by steep escarpments, which gave an opportunity to insight into the sedimentary setting of moraine. In this survey four sites were selected – two in southern and two in northern part of the moraine. Two series of samples were collected in all of this localities in order to analyze grain size distribution. First series of samples are derived from sediment profile in escarpment and were collected in 50 cm intervals. Second series are from sediment-flow fan. Sediments in this zone are thin and for this reason samples were collected only in surface layer, but at various distance from the escarpment. The obtained results allow to define the most important lithological features of the investigated area.

Sediments of ice-cored moraine in Ebbabren forefield has incoherent texture and, except one sediment profile, lack of sediment structures. It consist of full range of particle sizes from large boulders to matrix fractions. Individual samples are very diversified. The common features are both the very poorly or extremely poorly sorted (except of one sample of moderately well sorted fine sands). Predominantly results show high rate of symmetry with frequent, slight deviation to fine skewed, whereas only in two cases to coarse skewed. Nevertheless at the current stage of investigations there was no features neither tendency, which allow to separate sediments from individual layers of profile, whether distinguish between sediments from escarpment and sediments from sediment-flow fan. The observations are also expected to be strength with micromorphological analyses of earlier collected undisturbed samples of morainic sediments.