



## **Clasts petrography of post-glacial deposits in the Lubusz Elevation, western Poland**

Ewelina Lipka

Adam Mickiewicz University, Institute of Geocology and Geoinformation, Department of Geomorphology, Poznan, Poland  
(e.lipka@amu.edu.pl)

Clasts petrography of post-glacial deposits in the Lubusz Elevation, western Poland

Ewelina Lipka

Department of Geomorphology, Adam Mickiewicz University, Poznan, Poland

This study presents petrographic composition of post-glacial deposits in the Lubusz Elevation. Also parent areas and possible general ice-flow directions of those deposits were determined on the basis of clasts petrography. This contribution concerns the Lubusz Elevation, located in western Poland. This area is situated within the range of the Poznan Phase, which is the second stage of the Weichselian Ice Sheet in Poland.

The author aimed at revealing a spatial tendency in petrographic composition of post-glacial deposits that comprise the Poznan Phase marginal zone. This petrographic composition became also a basis to determine parent areas and possible general ice-flow directions of the analysed deposits.

The data set was collected from post-glacial deposits of varied lithology (superficial glacial till and glaciofluvial deposits) across the Poznan Phase marginal zone (end moraine, hinterland and foreland). Gravels of 4-10 and 20-60 mm fractions of both glacial till and glaciofluvial deposits were petrographically analysed. Also indicator and statistical erratics were recognised within the 20-60 mm fraction.

All analysed deposits, disregarding either place of their occurrence (end moraine, hinterland or foreland) or lithology (glacial till or glaciofluvial deposits) were found to consist mainly of crystalline rocks. Among end moraine and hinterland deposits (apart from crystalline rocks) Palaeozoic limestones, Palaeozoic sandstones and flints are present in significant amounts. Foreland deposits consist mainly (beside crystalline rocks) of Palaeozoic sandstones and flints. More Palaeozoic sandstones and flints and less quartz grains were observed among 20-60 mm fraction gravels comparing to those of 4-10 mm fraction. Significant percentage of flints in all analysed samples was found remarkable. It occurred to be greater than in any other previous research concerning this area or its surroundings. Further research shall reveal the ground of this increased flint contribution.

Indicator erratics spectra show that the ice incorporated mainly rocks from southern Sweden (Småland, Skåne), Bornholm and Dalarna. Both indicator and statistical erratics spectra suggest that the ice-flow direction was straight southward. Also the so-called theoretical stone centre TGZ is always located in Småland. The discrepancy between TGZs of analysed samples is insignificant. On the one hand indicator erratics spectra taken both from glacial till and glaciofluvial deposits were found to be very similar. On the other hand parent areas of erratics from the foreland appear slightly more scattered than the parent areas of erratics from the end moraine zone. Nevertheless the author suggests the need to conduct more extensive research before drawing a firm conclusion.