

Accepted Manuscript

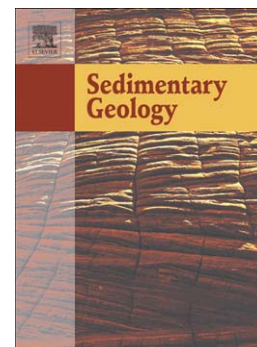
Till formation under a soft-bedded palaeo-ice stream of the Scandinavian Ice Sheet, constrained using qualitative and quantitative microstructural analyses

Włodzimierz Narloch, Jan A. Piotrowski, Wojciech Wysota, Karol Tylmann

PII: S0037-0738(15)00148-7
DOI: doi: [10.1016/j.sedgeo.2015.06.011](https://doi.org/10.1016/j.sedgeo.2015.06.011)
Reference: SEDGEO 4876

To appear in: *Sedimentary Geology*

Received date: 13 April 2015
Revised date: 24 June 2015
Accepted date: 25 June 2015



Please cite this article as: Narloch, Włodzimierz, Piotrowski, Jan A., Wysota, Wojciech, Tylmann, Karol, Till formation under a soft-bedded palaeo-ice stream of the Scandinavian Ice Sheet, constrained using qualitative and quantitative microstructural analyses, *Sedimentary Geology* (2015), doi: [10.1016/j.sedgeo.2015.06.011](https://doi.org/10.1016/j.sedgeo.2015.06.011)

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

Till formation under a soft-bedded palaeo-ice stream of the Scandinavian Ice Sheet, constrained using qualitative and quantitative microstructural analyses

Włodzimierz Narloch ^{a,*}, Jan A. Piotrowski ^b, Wojciech Wysota ^a, Karol Tylmann ^{a,1}

^a Department of Geology and Hydrogeology, Faculty of Earth Sciences, Nicolaus Copernicus University in Toruń, Lwowska 1, PL-87-100 Toruń, Poland

^b Department of Geoscience, Aarhus University, Høegh-Guldbergs Gade 2, DK-8000 Aarhus C, Denmark

* Corresponding author. Tel.: +48 566112590

E-mail address: w.narloch@umk.pl (W. Narloch)

¹ Present address: Department of Marine Geology, Institute of Oceanography, University of Gdańsk, Piłsudskiego 46, PL-81-378 Gdynia, Poland

ABSTRACT

This study combines micro- and macroscale studies, laboratory experiments and quantitative analyses to decipher processes of till formation under a palaeo-ice stream and the nature of subglacial sediment deformation. Till micromorphology (grain lineations, grain stacks, turbate structures, crushed grains, intraclasts and domains), grain-size and till fabric data are used to investigate a basal till generated by the Vistula Ice Stream of the Scandinavian Ice Sheet during the last glaciation in north-central Poland. A comparison of microstructures from the *in situ* basal till and laboratory-sheared till experiments show statistical relationships between the number of grain lineations and grain stacks; and between the number of grain lineations and turbate structures. Microstructures in the *in situ* till document both brittle and ductile

Download English Version:

<https://daneshyari.com/en/article/4689201>

Download Persian Version:

<https://daneshyari.com/article/4689201>

[Daneshyari.com](https://daneshyari.com)