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Sedimentology and carbon-isotope stratigraphy of the Late Cretaceous Chalk Group in the Höllviken-1 core (SW Sweden)

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The Höllviken-1 borehole is situated on the Skåne peninsula (SW Sweden) which was part of the Danish Basin in the Late Cretaceous. 1415 meters have been cored among which ca. 1100 meters cover the complete Upper Cretaceous to lower Danian Chalk Group. Besides the publication of a synthetic log and detailed foraminifer biozonation, supplemented by a number of rare macrofossil findings and description of a number of foraminifer holotypes (Brötzen, 1944), very few studies of the core have actually been performed, since the mid 1940s. A new project has thus been undertaken aiming at improving the stratigraphy of the Chalk Group in the Höllviken-1 core. The data presented here comprise the description of the interval 837-489 m covering a large part of the Campanian and the lower Maastrichtian. Two intervals with the presence of sand are noted in the Campanian and two intervals showing possibly progradational sequences of arenaceous marls to sand are present in the Maastrichtian. The purpose of this new study is to revise the foraminifer biostratigraphy of Brötzen and complement it with high-resolution carbon-isotope stratigraphy in order to establish a new age-model for the core and better constrain the timing of siliciclastic input into the Danish Basin. In addition, high-resolution sedimentological data will be used as a preliminary test for cyclostratigraphy of the chalk-marl intervals.