

The largest Early Cretaceous glendonites ever recorded

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The Lower Cretaceous succession of Svalbard is known to contain numerous glendonites, particularly in intervals of Hauterivian–Barremian and late Aptian age (e.g., Vickers et al., 2019). These are reported as ranging from centimeter to decimeter-scale in size (Vickers et al., 2018), which is within the usual size range for ancient glendonites and modern ikaite in marine sediments (Rogov et al., 2021). Recent fieldwork in central Spitsbergen recovered giant glendonites of half meter-scale size, comparable to outlier glendonites found in the early Eocene-aged succession of northern Denmark (e.g., Schultz et al., 2020). Unlike the Danish glendonites, and the smaller glendonites found in the Lower Cretaceous strata of Svalbard, these new finds appear as single or crossed blades. We present the locality in which they were found, their appearance and geochemistry, and discuss possible drivers of their formation in the Early Cretaceous high- $p\text{CO}_2$ world.

References

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