

ISOS-14 Field Guide

The Ordovician of Estonia

Edited by Olle Hints and Ursula Toom

14th International Symposium on the Ordovician System, Estonia, July 19-21, 2023

Pre-conference Field Excursion: The Ordovician of Estonia, July 15-18, 2023



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Stop 13: Kolu drill core, Central Estonia

Marko Kabel

Location: Latitude 58.81051°N, longitude 25.24221°E; Järva County, central Estonia.

Stratigraphy: Complete Ordovician succession from the Tremadocian to Hirnantian.

Status: Reference section, drilled for geological mapping in 2021.

More information: <https://geoloogia.info/en/locality/24828>

The Kolu EGT0016, drilled in 2021 in central Estonia, is one of the newest deep cores that reaches basement rocks in Estonia (Nezdoli et al. 2022). It has dip 80.9°, elevation of 56 m asl, and its depth is 550.60 m. The Quaternary cover is 9.2 m thick, followed by Llandovery Rumba Formation. The Ordovician–Silurian boundary is probably between 100–104 m depth, within the Varbola

Formation, Juuru Regional Stage. The lower boundary resides within the Kallavere Formation, probably near the depth of 271–272 m. In addition to coring, the Kolu borehole was logged using gamma log, cavernometry, temperature, electric resistivity, density and optical camera.

References

Nezdoli, J., Kabel, M., Leben, K., Männik, M., Nirgi, S., Suuroja, K., Tarros, S. 2022. Kesk-Eesti puurimisprojekti

aruanne (Drilling report from Central Estonia). EGF 9657. <https://fond.egt.ee/fond/egf/9657>

Kolu (EGT0016) core interval 103,5-123,0 m XRF results

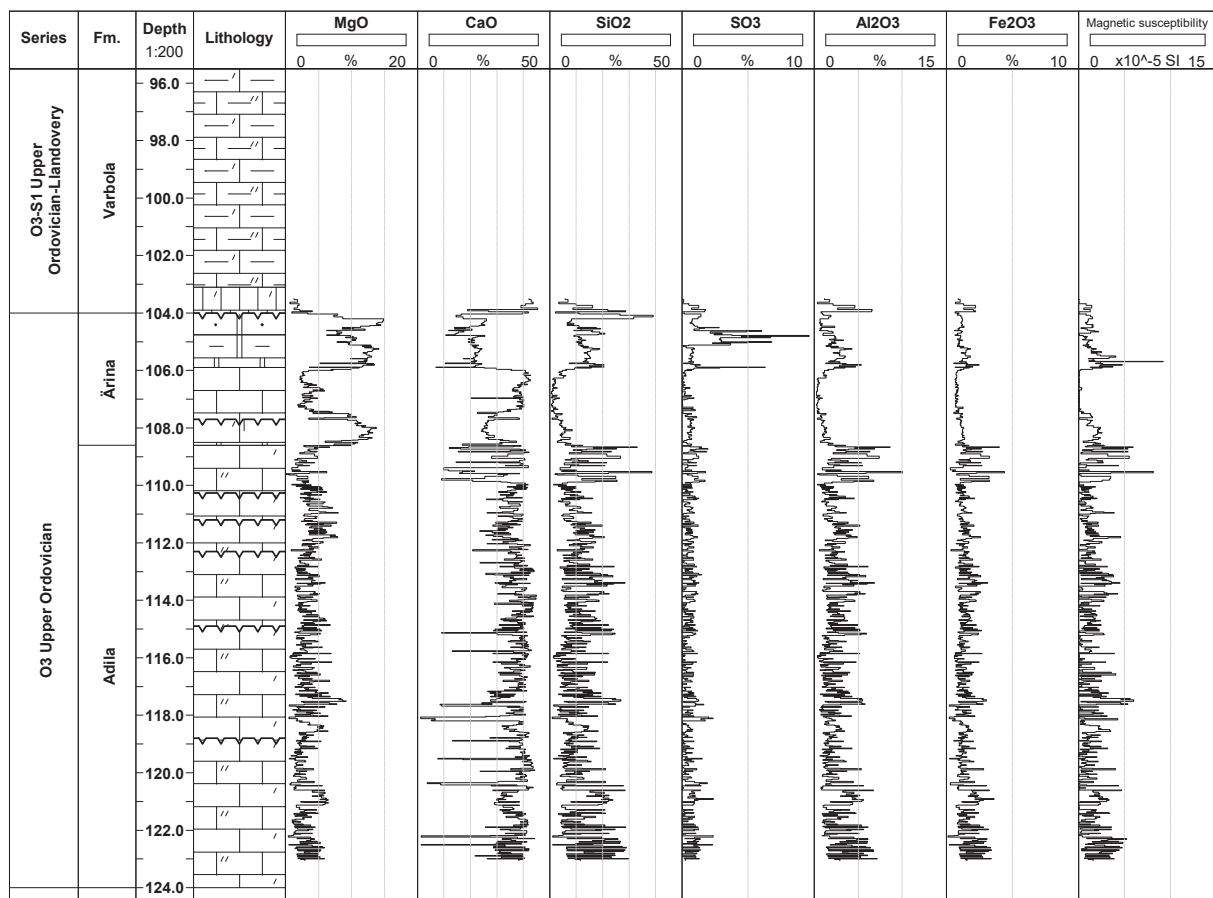


Fig. 13.1. Example results of XRF scanning of main elements across the Hirnantian (Porkuni Regional Stage) in the Kolu drill core. Geotek MSCL-XYZ Core Workstation scanner at the Arbavere Center was used. Note the cyclic patterns of several elements in the Adila Formation.

Kolu (EGT0016) core interval 95,5-280 m

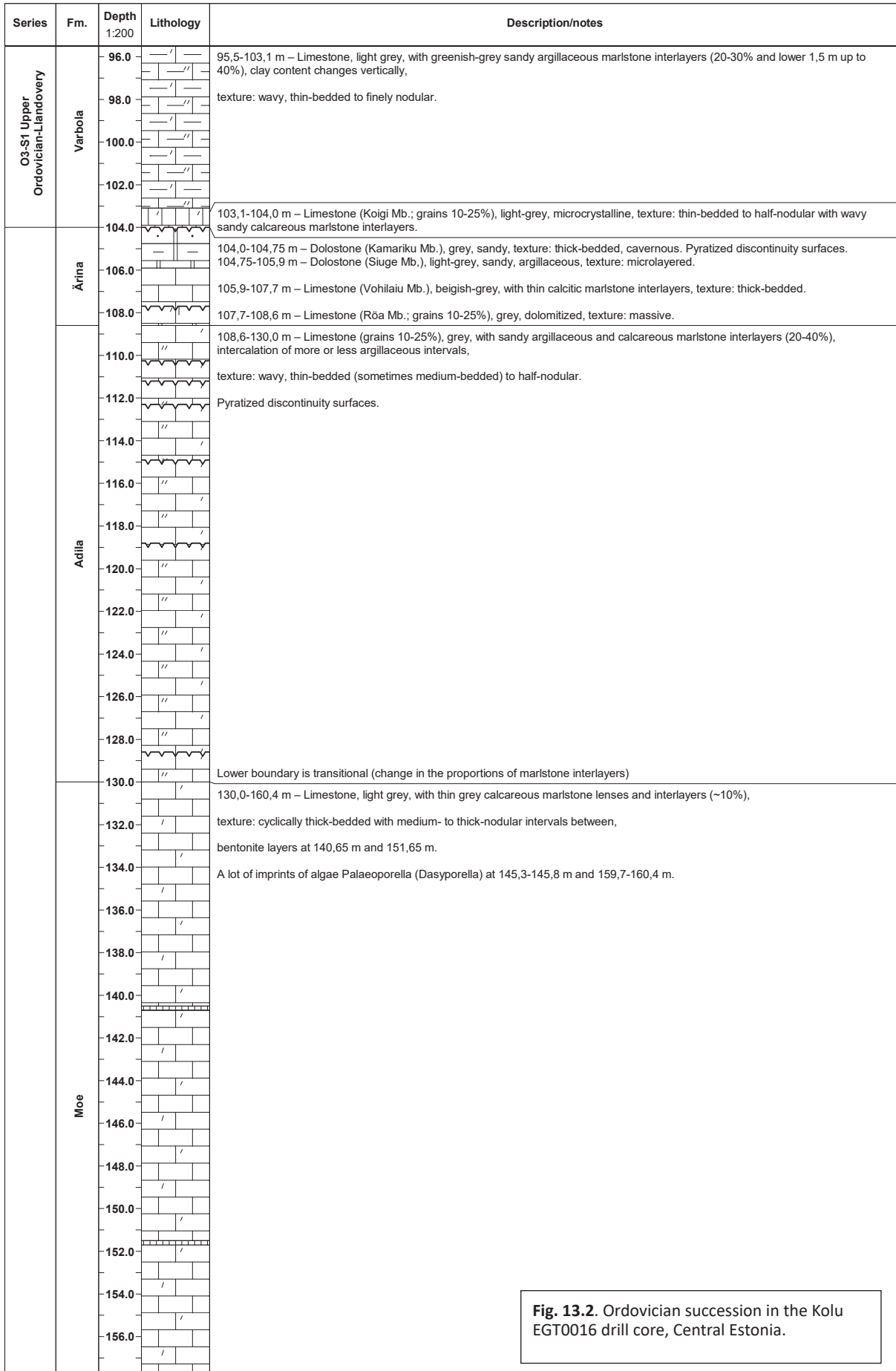


Fig. 13.2. Ordovician succession in the Kolu EGT0016 drill core, Central Estonia.

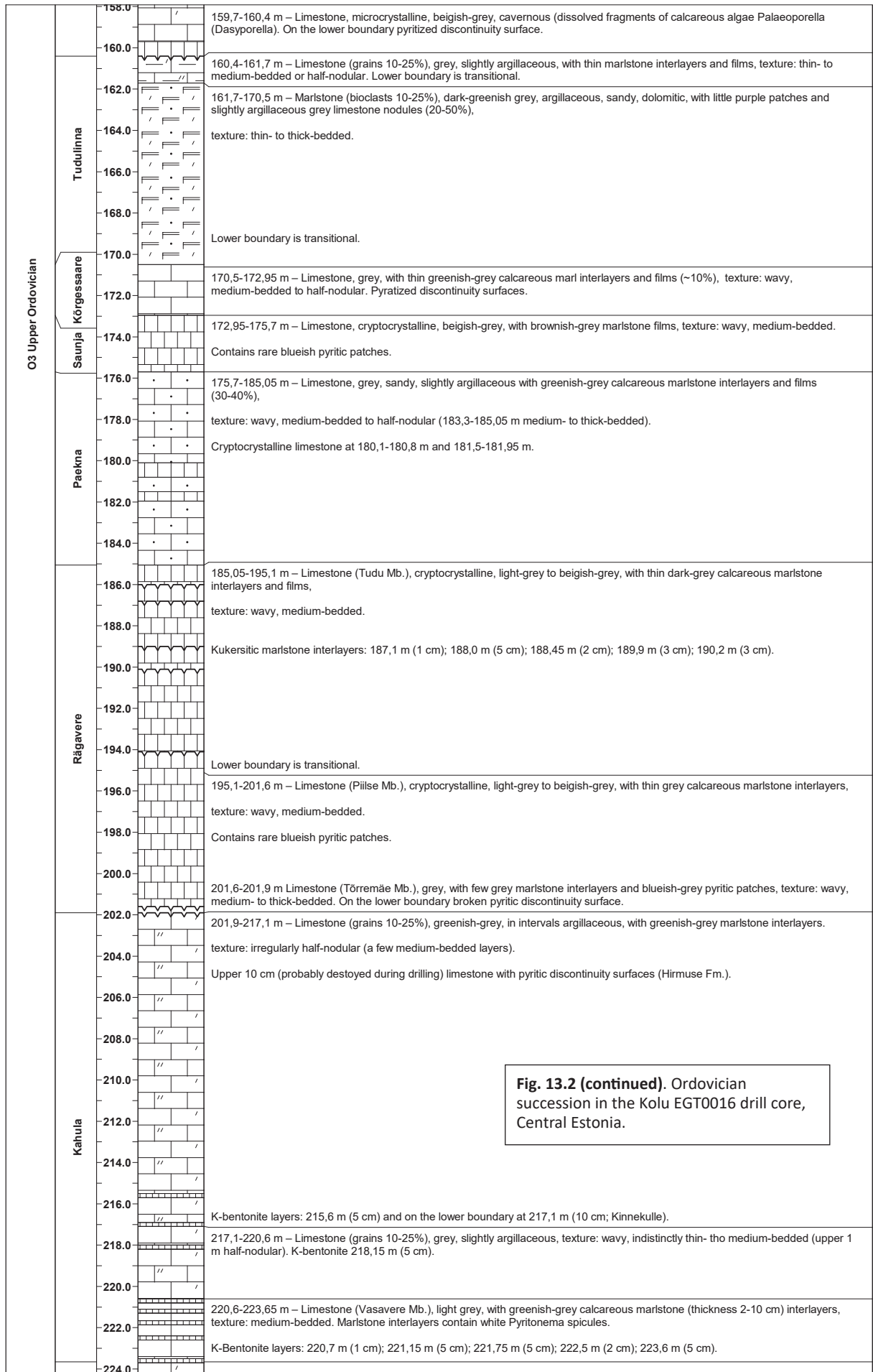


Fig. 13.2 (continued). Ordovician succession in the Kolu EGT0016 drill core, Central Estonia.

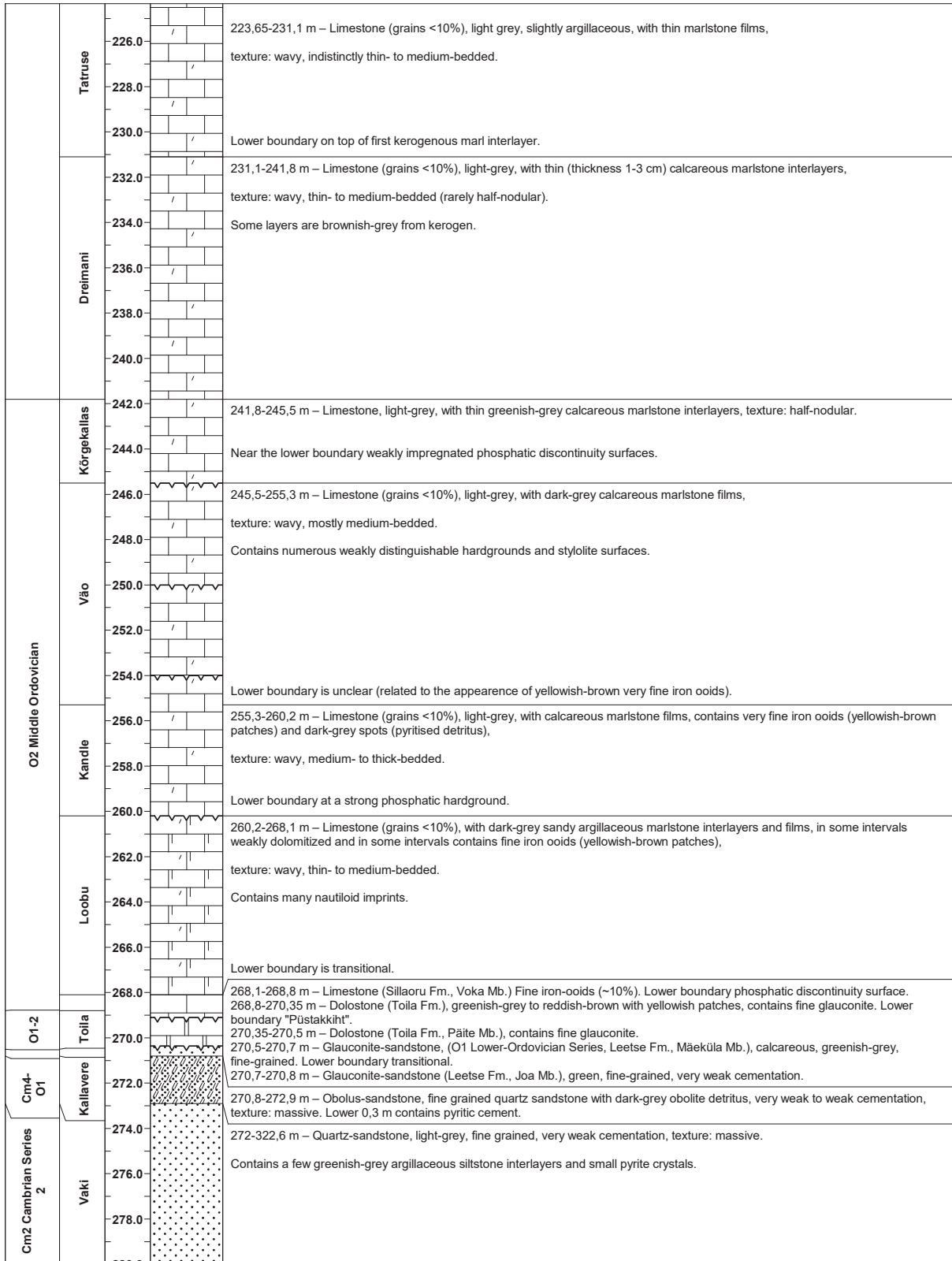


Fig. 13.2 (continued). Ordovician succession in the Kolu EGT0016 drill core, Central Estonia.