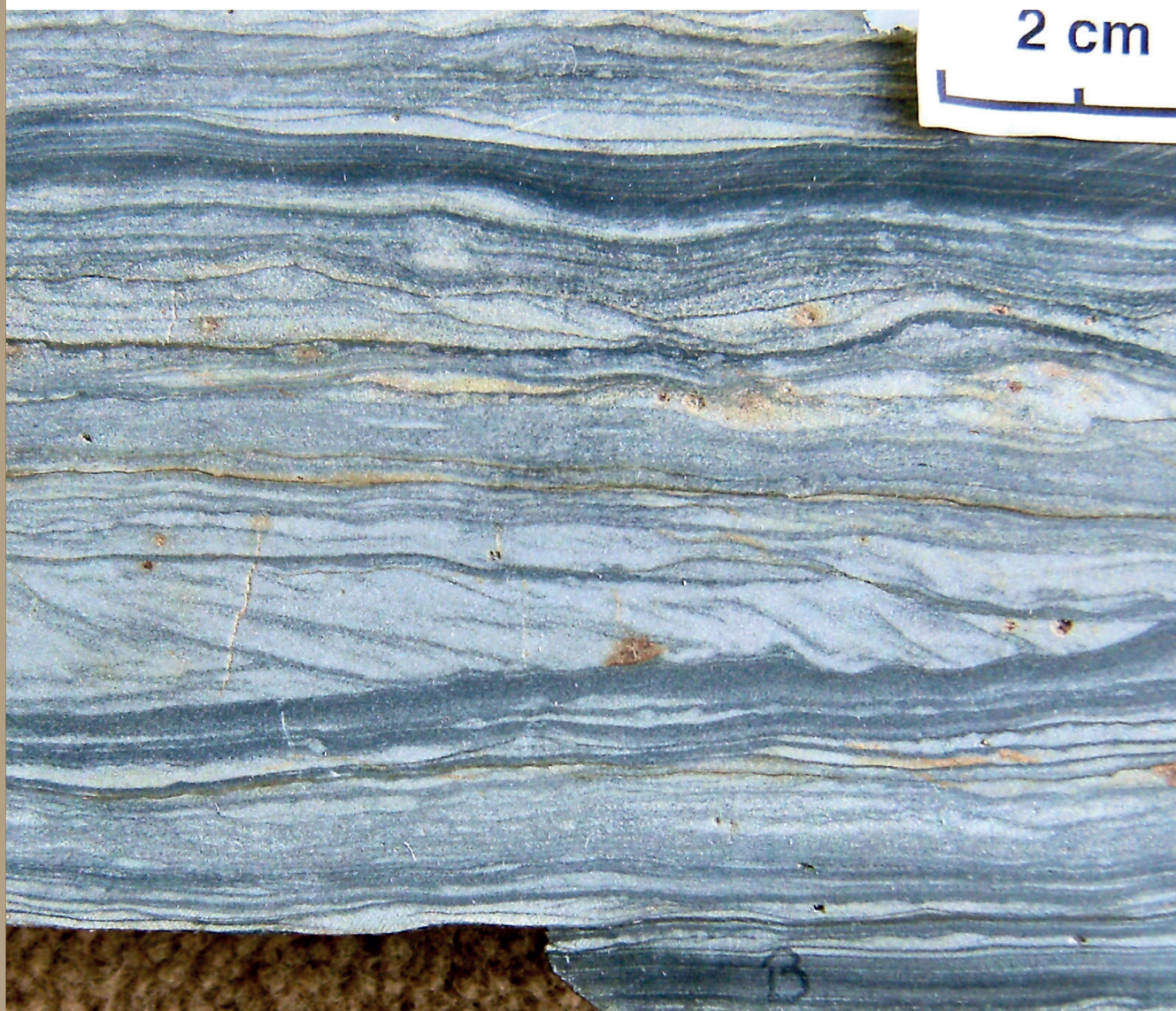


# Professional Papers

of the Geological Survey of Belgium

SCIENTIFIC REPORTS SERIES



The Ordovician Chevlipont Formation (Brabant Massif  
and Condroz Inlier, Belgium): state of the art

AUTHOR | ALAIN HERBOSCH

# Professional Papers

of the Geological Survey of Belgium

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## **THE ORDOVICIAN CHEVLIPONT FORMATION (BRABANT MASSIF AND CONDROZ INLIER, BELGIUM): STATE OF THE ART**

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**Cover illustration:** Characteristic wavy bedded siltstone facies of the Chevlipont Formation. Sample sawed and dressed collected from the Western embankment of Ottignies-Charleroi railway line, at km 38.10. See caption of Photo 9 for more detailed explanations. Photo © Herbosch.

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# THE ORDOVICIAN CHEVLIPONT FORMATION (BRABANT MASSIF AND CONDROZ INLIER, BELGIUM): STATE OF THE ART

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## Abstract

The Lower Ordovician ChevliPont Formation is particularly noteworthy because, although not very thick, it can be observed in outcrops and boreholes over a wide area of the Brabant Massif as well in the Condros Inlier. The main outcrop areas in the Dyle Basin and in the Marcq valley are described and illustrated with geological maps, together with a comprehensive inventory of boreholes in which the formation has been observed. The ChevliPont Formation also occupies a distinctive stratigraphic position, marking the transition between the Mousty Formation and a major hiatus that overlies its upper limit. The most common lithology consists of alternating cm thick layers of siltstone, clayey siltstone, and mudstone, characterized by a distinctive wavy bedding. This lithology is the focus of a detailed sedimentological study. The results indicate that these facies correspond to truncated sequences of low-density turbidite. The predominance of low-density turbidite, accompanied to a lesser extent by high-density turbidite and the frequent occurrence of intraformational slumps and breccias, points to a distal turbiditic depositional environment with some gradient, probably situated in the lower part of the continental slope. Its early Tremadocian age is exceptionally well constrained by the presence of graptolites of the genus *Rhabdinopora*. Despite epizonal metamorphism, the silty lithology and low manganese content do not favour the development of metamorphic minerals. Studied phases include chlorite-mica stacks, chlorite, muscovite and ilmenite. New major elements geochemical analyses show that the siltstones of the ChevliPont Formation are well grouped within the Shales compositional field of lithological-geochemical classification and closely match international shale standards. These geochemical results are discussed and compared with those of the underlying Mousty Formation.

**Keywords:** Caledonian basement, Belgium, Tremadocian, stratigraphy, sedimentology, geochemistry

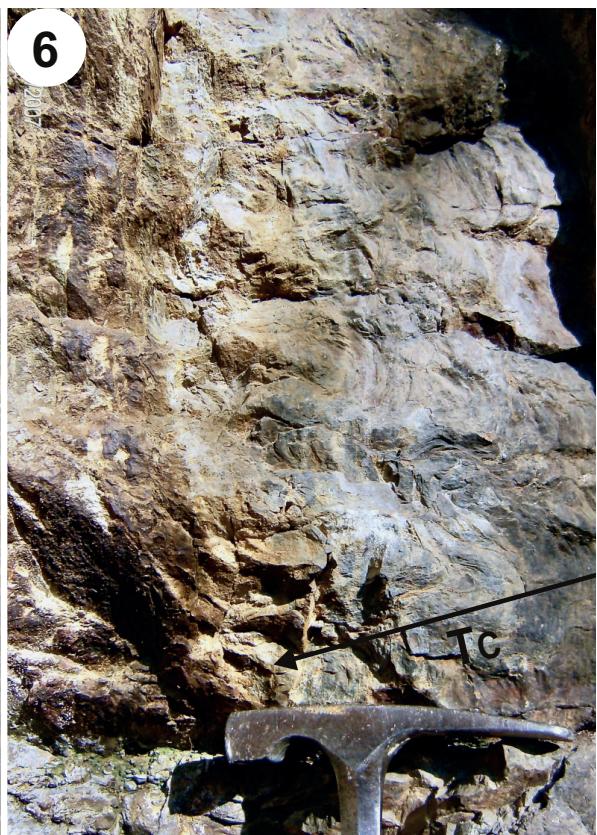
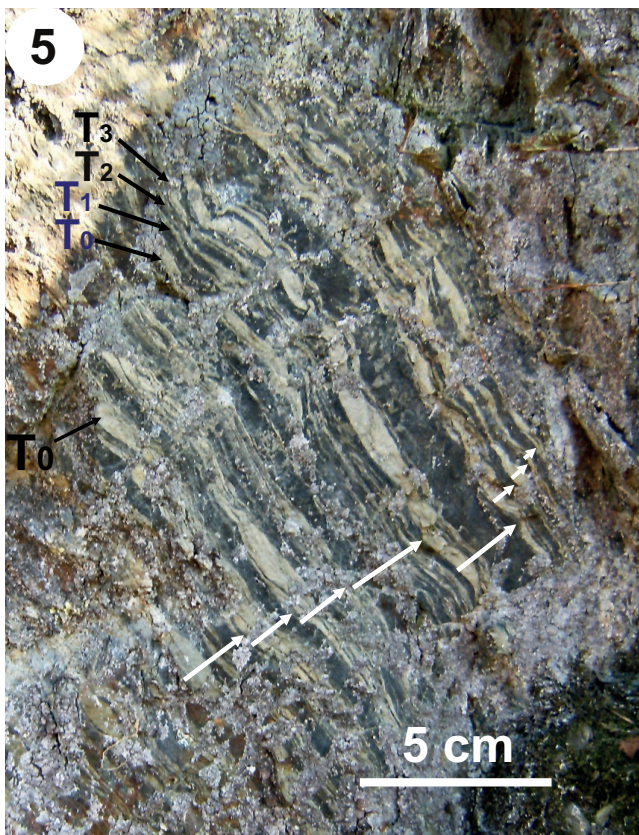
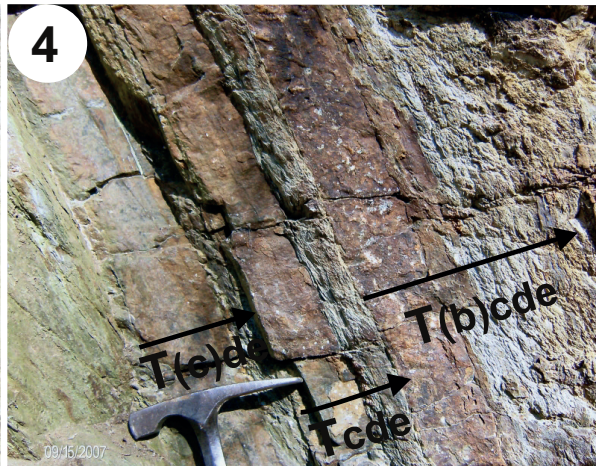
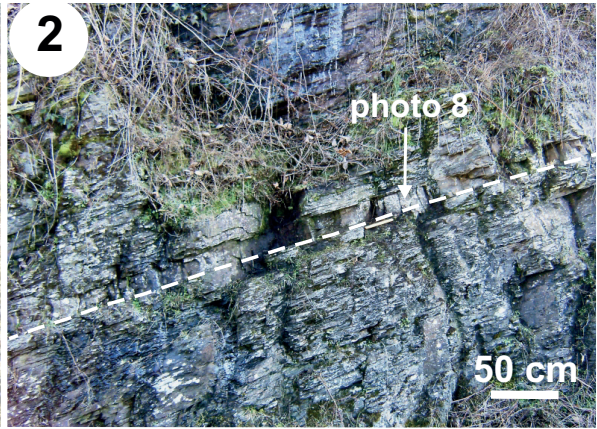
## 1. Introduction

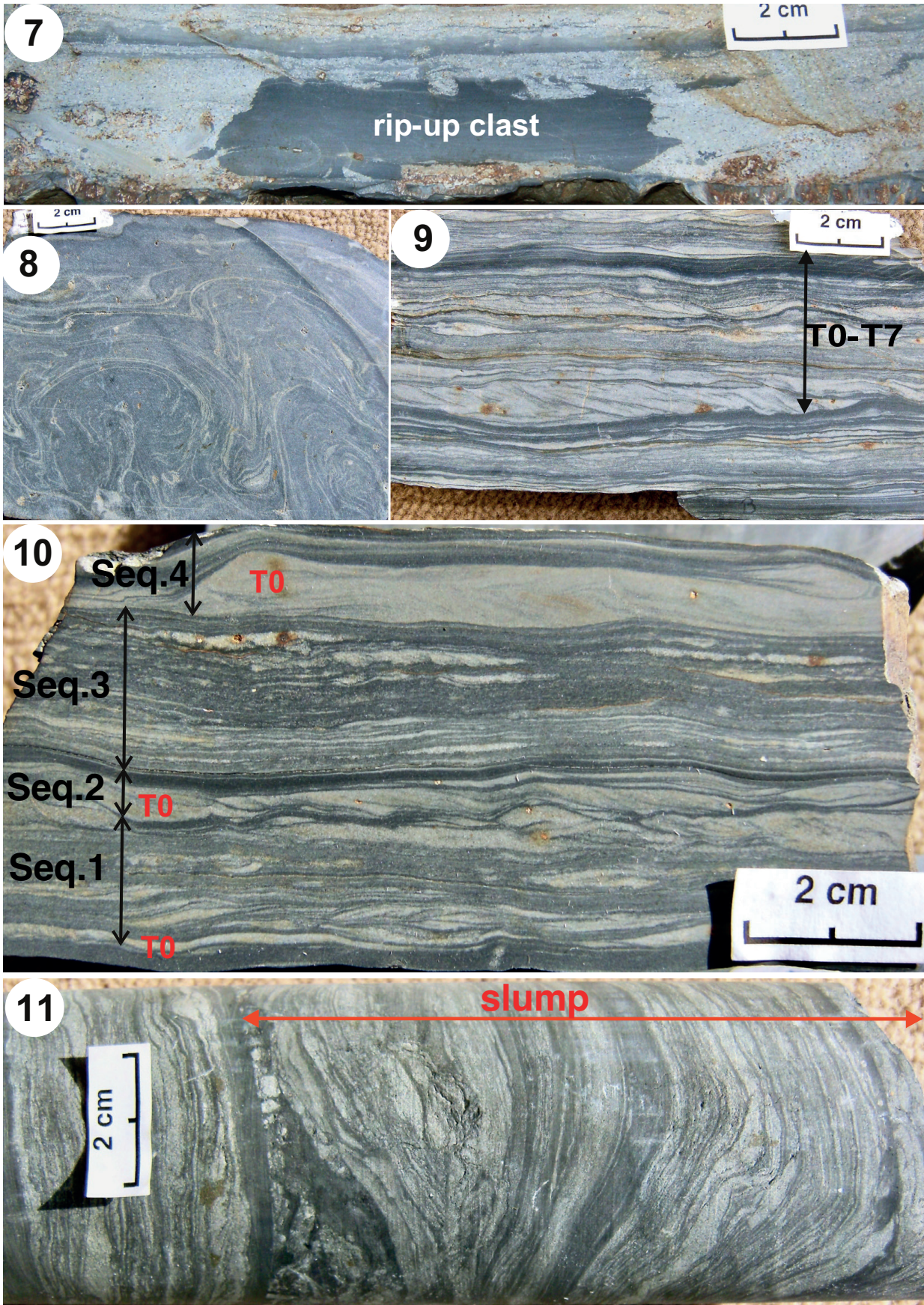
Multidisciplinary research has been undertaken on the Brabant Massif (Belgium) since the early 1980s under the instigation of L. Andre, W. De Vos, A. Herbosch, M. Vanguetaine and J. Verniers to mention only the initiators. Numerous publications, masters and Ph.D. theses have resulted from this research. They were then relayed by the program of the new geological map of Wallonia. These researches have brought a considerable amount of new data, sometimes unpublished, modified in the course of research progress, or drowned among other information. This justifies the present synthesis, which should make it possible to rectify some errors and inconsistencies and to considerably improve our knowledge of the ChevliPont Fm and its geological relationships with the Brabant Massif as a whole.

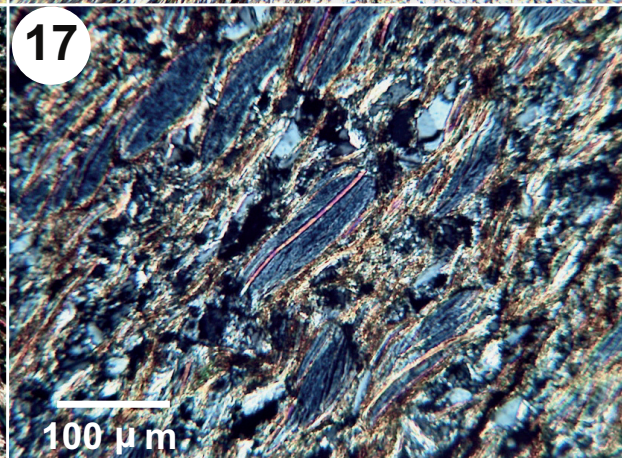
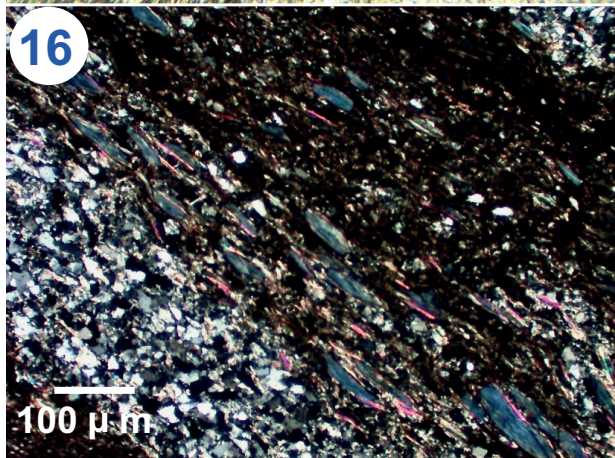
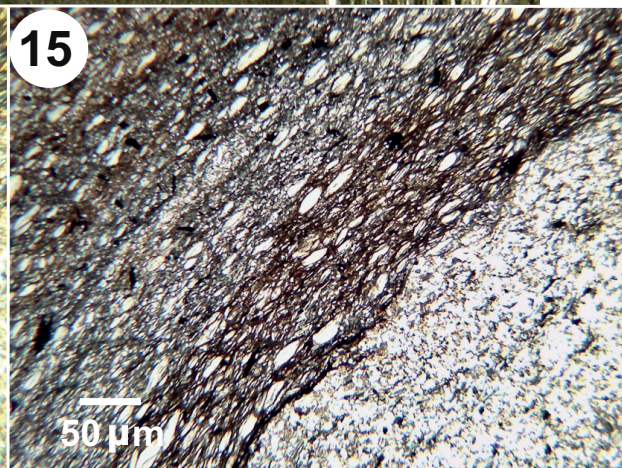
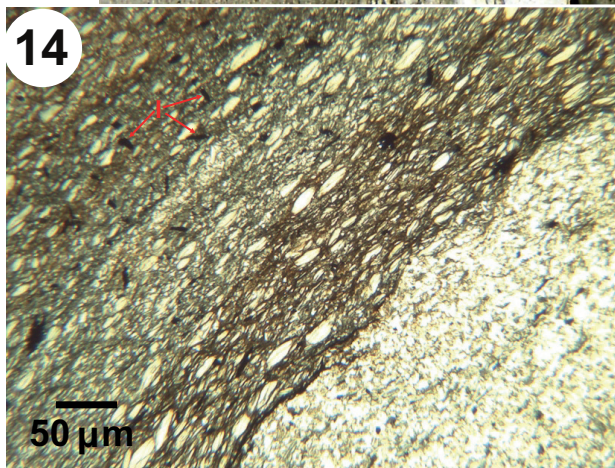
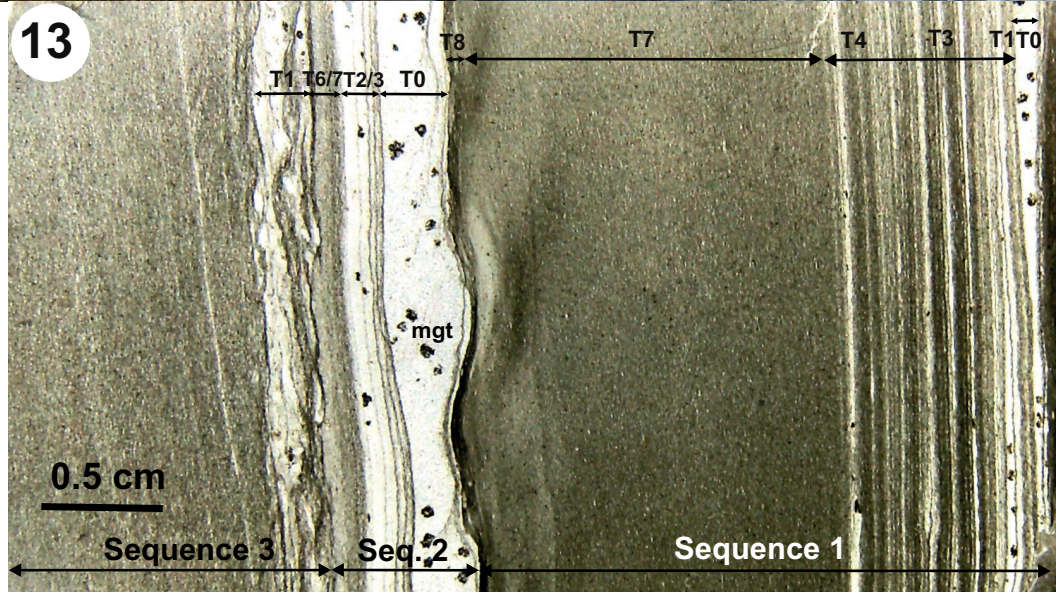
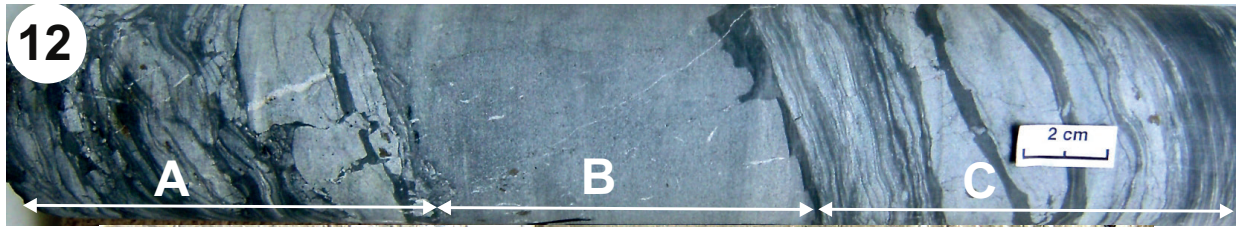
The ChevliPont Fm, despite its limited thickness, is characterized by a highly distinctive facies and is of considerable interest due to its widespread presence in numerous exposures and boreholes across both the Brabant Massif and the southeastern extension of the Brabant Basin, known as the Condros Inlier. This formation is particularly significant as it marks the transition between the Mousty Fm and the major stratigraphic hiatus that follows its summit. This hiatus most likely recorded the separation of the Avalonia microplate from the Gondwana continent at the dawn of the Ordovician.

## 2. History and definition of the ChevliPont Formation

The ChevliPont Fm was named after the old mill of ChevliPont in the Thyle valley by Anthoine & Anthoine







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