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Strépy Formation

Strépy Formation- Yans Johan, Hennebert Michel, Vanneste Céline

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Name: derived from the Strépy commune (province of Hainaut, 11 km East of Mons).

Stratotype: Borehole 141W-418G (Fig. 1 and 2; description from Gulinck & Laga, Public records of the Geological Survey of Belgium). Lambert coordinates: X= 131116, Y=129475, Z (ground level) = 56.7 m; depth interval 6.0 - 42.0 m.

A parastratotype, showing the Strépy Formation with grains of glauconite overlied by Ville-Pommeroeul Formation, is borehole 141W-473E (description from Gulinck, Public records of the Geological Survey of Belgium). Lambert coordinates: X= 131830, Y= 130120, Z (ground level) = 104.4 m; depth interval 30.0 - 38.0 m.

These boreholes are described below.

Fig. 1. Location of the borehole 141W-418G (n° 418 on the map), stratotype of the Strépy Formation and parastratotype borehole 141W-473E (n° 473 on the map).

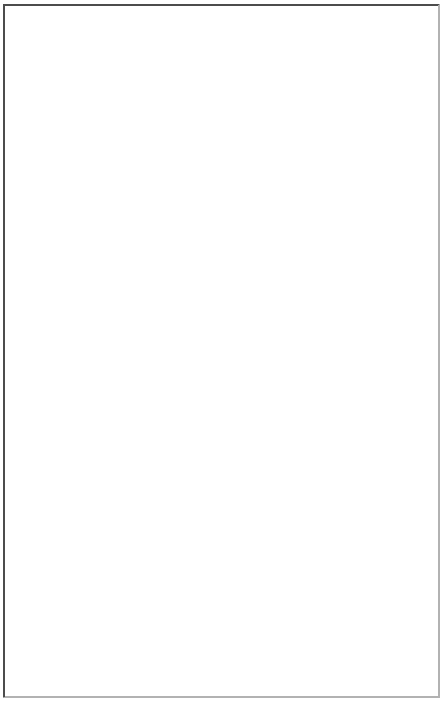

Fig. 2. Stratotype of the Strépy Formation. Borehole 141W-418G (description from Gulinck & Laga, Public records of the Geological Survey of Belgium).

Description: alternations of white-dark, fine-coarse sands, levels of lignite and white sandstones with fragments of plants (roots?). Grains of glauconite are locally found in coarse-medium white sands.

Underlying strata: Bracquegnies Formation, Late Albian in age (early "vraconnian"; Amédro, 2002).

Overlying strata: Ville-Pommeroeul Formation, Late Turonian in age, locally called "Glauconitite de Thieu" or "Verts à têtes-de-chats" (Robaszynski, 1975; Robaszynski et al., 2001).

Area: Eastern part of the Mons Basin. Gulinck (1974) mentioned its occurrence in the area of Thieu and Gottignies. Only known as subsurface occurrence.

Thickness: 36.0 m in the stratotype borehole (141W-418G). Following Gulinck (1974), variations of thickness are rapid and frequent in the Thieu area.

Age: Yans et al. (2002, 2005a, 2005b), Yans (2003), Yans (2007) assigned a Late Turonian age, combining dating of grains of glauconite and using stratigraphy of overlying strata. The revised lithostratigraphy of Belgium for this period would be as followed.

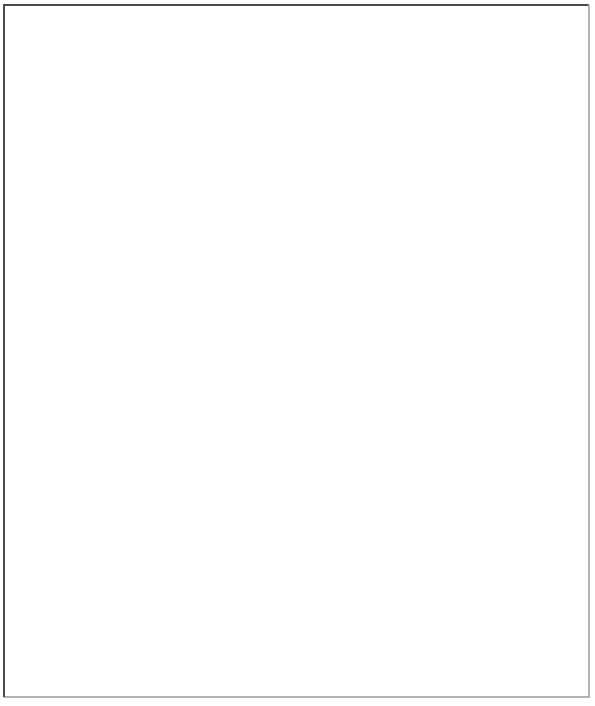

Fig. 3. New Belgian lithostratigraphical chart of the Barremian-Santonian interval, including the Strépy Formation (this proposal) and the correlative limited Saint-Pierre Formation.

Historical background: The Strépy Formation corresponds to:

-" entre le Turonien et le complexe de sables très fins et de gaizes de l'Albien […], des lambeaux de sables grossiers mais bien calibrés, généralement blanchâtres, et en partie glauconifères, sans trace d'un gravier intercalaire " (Gulinck, 1967),

-" Albien-Cénomanien à faciès Wealdien " (Gulinck, 1974 ; Herman, 1982),

-" Cénomanien? à faciès wealdien ", Gulinck & Laga, Public records of the Geological Survey of Belgium).

- Saint-Pierre Gravel Formation (SPR) - Hainaut Group by Robaszynski et al. (2001); these latter authors proposed for the whole Hainaut Group a Late Jurassic ("Purbeckian") to Early Cretaceous (Aptian) and possibly even extending into Early Cenomanian (white sands in the lift foundation pit at Stépy?).

-Hennebert & Vanneste (in press) proposed the Strépy Formation (STP) following their mapping in the stratotypic area.

In comparison with Robaszynski et al. (2001), we propose the introduction of the Strépy Formation because of:

- Saint-Pierre Gravel Formation (SPR) is divided into two parts: Lower Saint-Pierre Formation ("Wealden facies") and Upper Saint-Pierre Formation (here Strépy Formation or "Albien-Cénomanien à faciès wealdien") separated by the Bracquegnies Formation.

- Strépy Formation does contain grains of glauconite, which could be considered as a peculiar feature of the "Wealden facies"

- Late Turonian age of the sediments of the Strépy Formation is now established.

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