



Geologische Dienst Nederland

The interpretation presented here is based on available public data and is subject to inherent uncertainties. Additional information (e.g. lithological descriptions, depositional environment) of lithostratigraphic units can be found on DINOloket Stratigraphic Nomenclature website by clicking the hyperlinks on each labelled formation or group name.

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SCAN Line 20 runs from southeast to northwest across the Peel-Maasbommel Complex and the Venlo Block, respectively. The line is oriented approximately perpendicular to the main structural trend. It does not intersect the Peel Boundary Fault Zone, which defines the southern margin of the horst structure.

The Venlo Block is considered a platform, as the Permo-Triassic sequence is preserved here, in contrast to the Peel-Maasbommel Complex (PMC), where these strata are absent. A thick Carboniferous succession and a substantial Chalk Group are present, separated by a thin interval of Permo-Triassic deposits.

The relatively thick Carboniferous succession includes the Carboniferous Limestone Group (also referred to as the Zeeland Formation), a complete Namurian sequence (comprising Namurian A and B), followed by the Baarlo and Ruurlo Formations, which correspond to Westphalian A. Younger Upper Carboniferous units (Westphalian C–D) are not encountered within the PMC.

The thin Permo-Triassic interval locally exhibits a clear angular unconformtiy with the underlying Carboniferous strata. Due to its limited thickness, the Rotliegend and Zechstein cannot be distinguished in the seismic data. Both the Venlo Block and the PMC underwent significant uplift and erosion during the main Late Jurassic–Early Cretaceous rifting phase. Northward thinning of the Permo-Triassic and truncation of the Carboniferous intervals are observed beneath the Cretaceous unconformity, particularly in the central part of the PMC. This thinning is also evident on crossing Line 16.

The Chalk Group reaches a minimum thickness of 750 m. In well OPL-16 (on Line 16), a thickness of 650 m was interpreted, although the seismic section clearly shows that the Chalk Group onlaps the Venlo Block from the north, where it is thicker. Dashed lines within the Chalk Group represent seismostratigraphic units that can be traced across the PMC. Based on well OPL-16, these units can be tentatively correlated with the Aken, Vaals, Gulpen, Maastricht, and Houthem formations. Older strata of the Ommelanden Formation are likely present beneath these units in the northern part of the section.

As in Line 16, which runs parallel to this seismic section, faults do not exhibit significant offset. This can be attributed to the high angle between the faults and the orientation of the seismic line.