Geophysical Research Abstracts
Vol. 19, EGU2017-6152-1, 2017
EGU General Assembly 2017


# Nivelstein sandstone, weakly lithified pure silica sands from the Dutch-German border area, intermittently used in architecture for two millennia

Timo G. Nijland (1) and C. Wim Dubelaar (2)

(1) TNO, Delft, Netherlands (timo.nijland@tno.nl), (2) TNO - Geological Survey of the Netherlands, Utrecht, Netherlands (wim.dubelaar@tno.nl)

The current paper provides a concise overview of the geological setting of the Nivelstein sandstone in broad sense, its petrographic and physical characteristics, and its use as natural stone. Miocene pure silica sands occur around Heerlen in the southeastern part of the Dutch province of Limburg and Herzogenrath in adjacent Germany, as well as in the Belgian province of Limburg near Opgrimbie. In Dutch Limburg and in Germany are three large active exploitations, quarrying the sands for industrial purposes. On top of the unconsolidated sands in the Herzogenrath quarry, lithified banks of sandstone occur, known as Nivelstein (or more rarely Herzogenrath) sandstone. This sandstone has been used as dimension stone and ornamental stone since Roman times. In the 11th century the quarry was reopened and after a long period of disuse sandstone blocks were again quarried in the second half of the 19th century. The lithification of the Nivelstein sandstone usually is very weak, with grain to grain contacts and some newly formed quartz rims only. The clay content is extremely low and is restricted to tiny booklets of kaolinite. Despite the weak cementation the Nivelstein sandstone has proved to be very time-resistant building stone that forms a major element in the stone cultural heritage of the Dutch- German border area.