The leaching of two Northern France slag heaps: diagnosis of the surrounding aquatic environment and impact assessment
Gaulier, Camille

Publication date: 2018

Citation for published version (APA):
**Journées Nord-Ouest Européennes des Jeunes Chercheurs**

**Villeneuve d’Ascq, 6-8 juin 2018**

**Formulaire de résumé – Présentation orale**

---

**TITRE :** Le lessivage des terrils du Nord de la France : diagnostic du milieu aquatique environnant et évaluation d’impact – The leaching of two Northern France slag heaps: diagnosis of the surrounding aquatic environment and impact assessment

*Camille GAULIER (1)(2)*, Virginie CALLIPEL (3), Justine STOURBE (3), Ludovic Lesven (1), Gabriel BILLON (1)

(1) Lille University, 59655 Villeneuve d’Ascq Cedex, France
(2) Vrije Universiteit Brussel, 1050 Brussels, Belgium (*correspondance: camille.gaulier@vub.be*)
(3) Département du Nord, 59000 Lille, France

This study reported a project conducted in 2016, in order to assess the potential leaching impact of two slag heaps in the Hauts-De-France region on biodiversity and ecosystems, based on a diagnosis of the surrounding aquatic environment of the slag heaps. The approach is structured along three main axes: the first one is a geographical work on aquatic environments, using a study on habitats and the water system. The second and third ones correspond to a thorough physicochemical and ecological study, in order to determine the existence or absence of interactions between the chemical composition of surface waters and the present biodiversity at the bottom of the slag heaps. To spatially and temporally describe this link, it was chosen to base the reflection on cartographies and multivariate data analysis. On one hand, the obtained results are typical signs of a neutralized acid mine drainage. Moreover and linked with the water system functioning, the eutrophication of several areas has been shown as it is the case for a lot of wetlands. On the other hand, if the analysis did not highlight any impact of the leaching on the biodiversity of most of the considered aquatic environments, it has however pointed out a few hot spots where ecological diversity appeared lower. This impact would be characterized by the reduction of sulphate from the slag heaps leaching to sulphide, potentially toxic for aquatic environments.