ROYAUME DU MAROC
UNIVERSITE ABDELMALEK ESSAADI
FACULTE DES SCIENCES ET TECHNIQUES
TANGER

المملكة المغربية
جامعة عبد المالك السعدي
كلية العلوم والتقنيات
طنجة

CED : « Engineering Sciences and Techniques »

THESIS DEFENSE

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CANDIDATE FOR DOCTOR SCIENCES AND TECHNIQUES

« Determination of the Degree of Contamination of the Uncontrolled Landfill Site in Tangier City »

Date :	**Monday 26 june 2023**
Time :	**14 pm**
Location :	**Conference Hall, Building F, FST - Tangier**

Committe Members		
Pr. Abdelhamid ROSSI	FST - Tangier	Chair
Pr. Ahmed FEKRI	FS - Casablanca	Reviewer
Pr. Mohammed HASSANI ZERROUK	FST - Al Hoceima	Reviewer
Pr. Hassan ER-RAIOUI	FST - Tanger	Reviewer
Pr. Taoufik MOURABIT	FST - Tangier	Examiner
Pr. Miriam WAHBI	FST - Tangier	Examiner
M. Abderrahim BOUATIA	AVERDA - Morocco	Guest
Pr. Mustapha MAATOUK	FST - Tangier	Co-supervisor
Pr. Abdelghani AFAILAL TRIBAK	FST - Tangier	Thesis Director

ABSTRACT

The increase in urbanization and the development of economy, as well as the raise in demographic rates usually result in a large production of waste in Moroccan cities. Unfortuantlly, the impact of these wastes on human health and the environment is substential. Only solid wastes landfilled are very rarely inert,because numerous physicochemical and biological reactions take place between the waste and the receiving environment (soil).

The uncontrolled household waste dump of Tangier is located about five kilometrs (km) to the southeast of the city.The total area which has been used for the landfill is about 48 hectares. The tonnage of the dumped waste registredduringthe follow-up period of our study (2016-2019)is 10.84 million tons. The leachate produced from the dumped waste of the public landfill in the city of Tangier, which is neither collected nor treated, could constitute a probable source of pollution.Not only the surface water and the groundwater table are polluted,but also the waters of the Wadis: Mlalah; Khandak Bou Hajjar; in the east, Mghogha; and Ghir Boudra to the south.

This studywill assessthe degree of pollution in the municipal refuse dump site of Tangier.For this purpose,the soilandleachatesamples were collected and analyzed during the period stretching from 2016 to 2019.Moreover, the analyses of these samples were determined on the basis of the physicochemical parameters (humidity, pH, organic matter, etc….), and the identification of the five heavy metals (Pb, Cd, Fe, Cr and Zn).

The results of the landfill soilanalyses showed the presence of heavy metal contents in significant quantities, as well as the organic matter levels. Anotheranalysis of the well water showed the presence of polluting elements in the leachate water and a high concentration of metals,especially iron that exceeds standards.These results makethe effluents extremely toxic,which presents a long-lasting danger to the health of the local population and the surrounding environment.

Keywords:

discharge; pollution; leachate; physico-chemical; heavy metals ; soils; well water ……