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ASSESSMENT AND SIMULATION OF ABU ZAABAL DUMPSITE IMPACT ON THE SURROUNDING WATER RESOURCES

By

Mohamed Ehab Mohamed Aly Sayed Ahmed El-Mathana

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
MASTER OF SCIENCE
in
Civil Engineering - Public Works

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Under the Supervision of

Prof. Dr. Mona M. Galal El-Din


.....

Professor of Sanitary and Environmental
Engineering
Public Works Department
Faculty of Engineering, Cairo University

**Associate Prof. Dr. Abdelsalam
Mohamed Elawwad**


.....

Associate Professor of Sanitary and
Environmental Engineering
Public works department
Faculty of Engineering, Cairo University

**FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
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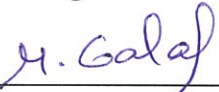
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**Approved by the
Examining Committee**




Prof. Dr. Mona M. Galal El-Din

(Thesis Main Advisor)



Associate Prof. Dr. Minerva Edward Matta

(Internal Examiner)



**Associate Prof. Dr. Zeinab Mohamed Aly
El-Fakharany**

(External Examiner)

Associate Professor, Research Institute for Groundwater (RIGW),
National Water Research Center (NWRC), Egypt

**FACULTY OF ENGINEERING, CAIRO UNIVERSITY
GIZA, EGYPT
2021**

Engineer's Name: Mohamed Ehab Mohamed Aly Sayed Ahmed
El-Mathana
Date of Birth: 31/05/1993
Nationality: Egyptian
E-mail: mohd.elmathana@hotmail.com
Phone: +201110816733
Address: 30-Becho America City, Zahraa El-Maadi, Cairo
Registration Date: 01/10/2017
Awarding Date: / /2021
Degree: Master of Science
Department: Civil Engineering – Public Works



Supervisors:

Prof. Dr. Mona M. Galal El-Din *M. Galal*
Associate Prof. Dr. Abdelsalam Mohamed Elawwad *A. Elawwad*

Examiners:

Associate Prof. Zeinab Mohamed Aly (External Examiner)
El-Fakharany *Zeinab*
Associate Prof. Minerva Edward Matta (Internal Examiner) *Minerva*
Prof. Dr. Mona M. Galal El-Din (Thesis Main Advisor) *M. Galal*

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Key Words:

Groundwater modeling; Groundwater contamination; Water quality; Contamination
transport; Solid waste

Summary:

This thesis discusses the area of Abu Zaabal dumpsite which has been overloaded with contaminants and wastes such as Solid waste (Domestic, Industrial, etc.). The area is also surrounded by high count of agricultural fields which is also a source of pollution due to excessive pesticides used. The location of the dumpsite is very sensitive as it is adjacent to Ismailia canal main branch which is one of the major canals used to feed the agricultural lands. There is also Belbais drain which is on the western side of Abu Zaabal dumpsite. The main aim is to assess the groundwater and surface water quality by developing a 3-dimensional contaminant transport model by utilizing the available data. This will enable us to predict the contamination levels at different periods of time.

Disclaimer

I hereby declare that this thesis is my own original work and that no part of it has been submitted for a degree qualification at any other university or institute.

I further declare that I have appropriately acknowledged all sources used and have cited them in the references section.

Name: Mohammed Ehab El-Mathana

Date: 09/08/2021

Signature: *M.ELM*

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