CHARACTERIZATION OF MINING SITE SOIL FROM IJERO-EKITI: ROLES OF SOIL PARAMETERS ON POLLUTANT BIOAVAILABILITY

BY

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(AEB/14/2181)

A DISSERTATION SUBMITTED TO THE DEPARTMENT OF ANIMAL AND ENVIRONMENTAL BIOLOGY IN PARTIAL FULFILMENT OF THE REQUIREMENTS FOR THE AWARD OF BACHELOR OF SCIENCE (B.Sc) DEGREE IN ANIMAL AND ENVIRONMENTAL BIOLOGY, FEDERAL UNIVERSITY OYE-EKITI, EKITI STATE.

SEPTEMBER, 2020

TABLE OF CONTENTS

DECLARATION

I, OSALUSI Christopher Temitope of Matriculation number AEB/14/2181 declare that this project work was carried out by me under the supervision of Dr Stanley O. Agbo of the Department of Animal and Environmental Biology, Federal University Oye-Ekiti, Nigeria. I attest that this project has not been presented elsewhere wholly or partly for the award of any degree. All sources of data and scholarly information used in this project are dully acknowledged.

Signature…….

Date……..

CERTIFICATION

This is to certify that **OSALUSI Christopher Temitope** with Matriculation Number AEB/14/2181 from the Department of Animal and Environmental Biology carried out this project titled 'Characterization of Mining Site Soil from Ijero Ekiti: Roles of Soil Parameters on Pollutant Bioavailability'

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Dr. STANLEY O. AGBO **DATE**

Project Supervisor

……..… ……

Dr. HILARY I. OKOH **DATE**

HEAD OF DEPARTMENT

ABSTRACT

The test soil sample A was obtained from an active mining site in Ijero-Ekiti, Ekiti State, Nigeria and transported to the campus of the Federal University Oye-Ekiti. A control Sample C was obtained from the campus surroundings, which served as a reference soil.

Soil is an important part in agriculture. An understanding of the physical and chemical condition of any soil is essential for proper implementation of management practices in agriculture.

Therefore, the physiochemical study of soil is very important because both physical and chemical properties are critical factors that affect soil productivity. This physiochemical study of soil is based on various parameters such as pH, soil texture, soil porosity, bulk density, soil salinity, soil moisture content, total organic carbon (TOC) and particle size distribution. Soil pH values ranged from 7.30- 7.50, moisture content ranged from 0.87- 0.43%, bulk density ranged from 1.43-1.58g/cm^3, conductivity ranged from 164-287.9cm, salinity ranged from 0.09-0.15ppt, the TOC ranged from 0.81- 1.89%, and the porosity ranged from 40.82- 46.44%.

Particle sizes comprise of the relative composition of sand, silt and clay. Based on our analysis, sand size distribution ranged from 89.15-99.28, silt ranged from 0- 10.6 and clay ranged from 0.25- 0.72.

Therefore, it was observed from the various parameters analyzed in Ijero mining site that the soil was less rich in organic matter compared to the control sample from the Federal University Oye-Ekiti. The mining site soil confirmed availability of various pollutants, which in the control occurred at lower levels and favourable for agricultural use.

DEDICATION

This PROJECT is dedicated to God Almighty for the gift of life and for his unconditional love towards me.

ACKNOWLEDGEMENT

I am thankful to the Almighty God for His inspiration**,** guidance and strength throughout the course of the work. He alone deserves all the praise and adoration.

I would as well like to appreciate my supervisor Dr Stanley O. Agbo for his constant support and fatherly care he gave during this period, I am indeed grateful sir. My profound acknowledgement also goes to my lecturers, such as my amiable Head of Department, Dr Okoh the immediate past HOD, Dr Oyedeji, also Dr. Sodipe for her ever constant motherly love, care and advice. I also appreciate the entire staff of Animal and Environmental Biology Department, both teaching and the non teaching staff.

My deepest gratitude goes to my parent Mr and Mrs OSALUSI and UNCLE for their ceaseless prayer, advice, financial and moral support and also for their assistance throughout the course of my study. May God almighty bless you and I pray you will eat the fruit of your labour in Jesus name. I also appreciate my siblings Osalusi Oluyemi, Jerry and Isreal, Mr Femi and Mr & Mrs Falade for their support and encouragement. Special thanks to my friends and their families for the support rendered in all aspects of my study and project work. I pray that the good Lord will reward you all in Jesus name (Amen).

My acknowledgement will be incomplete if I do not appreciate my course mate.

"The TRAILBLAZERS" for their support and assistance at one point or another during this research.

LIST OF PLATES

LIST OF FIGURES

LIST OF TABLES