# MEDITERRANEAN SEAFLOOR - OUTER OFFSHORE NILE DELTA: MORPHO-SEDIMENTOLOGICAL AND ENVIRONMENTAL ASSESSMENT

**A THESIS**

**SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF PHILOSOPHY DOCTOR IN GEOLOGY**

**CAIRO UNIVERSITY**
**FACULTY OF SCIENCE**
**GEOLOGY DEPARTMENT**

**By**

**Ahmed Farouk Mohamed Abu El Enein**
**(M.Sc Structural Geology)**

**2010**

# MEDITERRANEAN SEAFLOOR - OUTER OFFSHORE NILE DELTA: MORPHO-SEDIMENTOLOGICAL AND ENVIRONMENTAL ASSESSMENT

A THESIS

SUBMITTED IN FULFILLMENT OF THE REQUIREMENT FOR THE DEGREE OF PHILOSOPHY DOCTOR IN GEOLOGY

CAIRO UNIVERSITY
FACULTY OF SCIENCE
GEOLOGY DEPARTMENT

**By**

Ahmed Farouk Mohamed Abu El Enein
(M.Sc Structural Geology)

**Supervised by**

Prof. Dr. Mohamed Darwish Salem
Geology Department
Faculty of Science
Cairo University

Dr. Ahmed Nyazi El-Barkooky
Geology Department
Faculty of Science
Cairo University

**APPROVAL SHEET FOR SUBMISSION**

# MEDITERRANEAN SEAFLOOR - OUTER OFFSHORE NILE DELTA: MORPHO-SEDIMENTOLOGICAL AND ENVIRONMENTAL ASSESSMENT

Ahmed Farouk Mohamed
(M.Sc Structural Geology)

FACULTY OF SCIENCE
CAIRO UNIVERSITY
GEOLOGY DEPARTMENT

**Supervisors**

Prof. Dr. Mohamed Darwish Salem

Dr. Ahmed Nyazi El-Barkooky

Head of Geology Department

Faculty of Science, Cairo University

Prof. Dr. Adel Abdel Aziz Sehim

# MEDITERRANEAN SEAFLOOR - OUTER OFFSHORE NILE DELTA: MORPHO-SEDIMENTOLOGICAL AND ENVIRONMENTAL ASSESSMENT

**Supervisors**

Prof. Dr. Mohamed Darwish Salem

Dr. Ahmed Nyazi El-Barkooky

# ACKNOWLEDGMENTS

I would like to acknowledge Prof. Mohamed Darwish, Dr. Ahmed El-Barkooky, and Dr. Craig Shipp for their supervision and support. I thank Shell Egypt and Shell International for their technical, data, and financial support. I also thank, Prof. Nabil Abu El Ella and Dr. Essam Abdel Rahman from Cairo University, and Erik Scott Larry Gibson, Larry Nolte, Dr. van Heck, and Simon Newton from Shell International. From Shell Egypt, I thank Mark Newall, Paul Houweling and Ivar Nijenhuis. Special thanks, to STRATOCHEM and EREX companies for supporting and facilitating core analyses used in this work.

# TABLE OF CONTENTS

# LIST OF FIGURES

## CHAPTER ONE



## CHAPTER TWO

**CHAPTER THREE**

**CHAPTER FOUR**