



Cairo University

# PETROPHYSICAL CHARACTERISTICS AND UNCERTAINTY ANALYSIS FOR CRETACEOUS PAY ZONES OF ZUBAIR FIELD USING WELL LOG DATA, SOUTH IRAQ

By

Mohammed Yashar Najmuldeen

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  
Petroleum Engineering

FACULTY OF ENGINEERING, CAIRO UNIVERSITY

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**Title of Thesis:**

Petrophysical characteristics and uncertainty analysis for cretaceous pay zones of Zubair field using well log data, south Iraq

**Key Words:** Zubair field, petrophysical analysis, reservoir characterization, uncertainty analysis, South Iraq

**Summary:** Zubair field, is one of the most important oil fields located in south-eastern Iraq well log data of 7 wells are investigated in details using Interactive Petrophysics (IP 3.5) software to examine the reservoir properties and characterize the reservoir architecture. In addition, uncertainty analysis is executed on the output of the petrophysical analysis to account for the variations in the output values induced by random, systematic and model-based errors of the input data.





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# Dedication

Dedicate my thesis to my dear mother, my daughter Mina, and all my family.



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