



Cairo University

**Contribution of Risk Management to Rig Performance
Improvement: Application to the Analysis of Drilling Non-
Productive Time (NPT)**

By

MOHAMED BASHER BARAKAT

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

Risk Engineering

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Under the Supervision of

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Title of Thesis:

Contribution of Risk Management to Rig Performance Improvement:
Application to the Analysis of Drilling Non-Productive Time (NPT)

Key Words:

Risk Management; Rig Evaluation; Rig Performance; Non Productive time.

Summary:

This thesis uses risk management system to evaluate the rig performance based on the consequences of yearly Non-Productive Time (NPT) for each rig. Researcher used the concept of risk management and detected probability and severity of each undesired event during normal operation for sixty rigs. Results illustrate the comparison of risks between all rigs. Researcher used Risk control concept, and made risk assessment to evaluate each items of NPT. Cost benefit analysis (CBA) is used to improve the rig performance and reached to technical limit.

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Dedication

I dedicate this work to the spirit of my mother, who taught me the meaning of struggle and diligence, As well as to all my family and specially my wife who did not spare the effort and support in taking out this work.

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