بسم الله الرحمن الرحيم

MONA MAGHRABY

شبكة المعلومات الجامعية

التوثيق الالكتروني والميكروفيلم

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شبكة المعلومات الجامعية

التوثيق الإلكتروني والميكروفيلم

جامعة عين شمس

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قسم

نقسم بالله العظيم أن المادة التي تم توثيقها وتسجيلها
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يجب أن

تحفظ هذه الأقراص المدمجة بعيدا عن الغبار

MONA MAGHRABY

IMPROVING HYDROCARBON RECOVERY FROM AN EGYPTIAN RETROGRADE GAS CONDENSATE RESERVOIR, THROUGH THERMAL GAS INJECTION

By

Maged Alaa Taha

A Thesis Submitted to the
Faculty of Engineering at Cairo University
In Partial Fulfillment of the
Requirements for the Degree of
INTERDISCIPLINARY - MASTER OF SCIENCE
In
GAS PRODUCTION ENGINEERING

FACULTY OF ENGINEERING, CAIRO UNIVERSITY
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Title of Thesis:

Improving Hydrocarbon Recovery from an Egyptian Retrograde Gas Condensate Reservoir, Through Thermal Gas Injection

Keywords:

Enhanced Gas Recovery, Gas Recycling, Carbon Dioxide Injection, Nitrogen Injection, Thermal Gas Injection.

Summary:

This work investigates the effects of gas injection (CH_4, N_2 & CO_2) and steam at high temperatures on one of the Western Desert retrograde gas condensate reservoirs. All these injection scenarios have been simulated using Compositional-Thermal ECLIPSE simulator, after exporting the thermal PVT model from the matched compositional PVT model. Thermal CO_2 injection increased the condensate production by 28.9% as it mainly improves the condensate mobility. So, it is mostly applicable for depleted reservoirs when the largest amount of non-producible liquid is already dropped out.

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: Maged Alaa Taha Date: / / 2021

Signature:

Dedication

This work is dedicated to all my family and friends who helped me accomplish this step.

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I would like to express my sincere gratitude and appreciation to Bapetco for providing me multifarious valuable experiences. One shall always be indebted to Engineer Salah Abdelkareem, Bapetco's chairman, who I am most grateful to, for affording his precious presence, judging my master's degree, and for his continuous support.

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