

**NIGERIAN MARGINAL OILFIELD DEVELOPMENT IN LIGHT OF
PETROLEUM PROFIT TAX & PETROLEUM INDUSTRY ACT**

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Matriculation Number: 19PCN02003

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ACT.**

BY

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**A DISSERTATION SUBMITTED TO THE DEPARTMENT OF
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ENGINEERING AT COVENANT UNIVERSITY OTA, NIGERIA**

SEPTEMBER, 2021

ACCEPTANCE

This is to attest that this dissertation is accepted in partial fulfilment of the requirements for the award of a Master of Engineering Degree (MEng.) in Petroleum Engineering in the Department of Petroleum Engineering, College of Engineering, Covenant University, Ota, Ogun State, Nigeria.

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DECLARATION

I, **JOSEPHS, EJEMEN RACHAEL (19PCN02003)** declare that this research was carried out by me under the supervision of Dr. Charles, Onuh of the Department of Petroleum Engineering, College of Engineering, Covenant University, Ota, Ogun State, Nigeria. This Master's dissertation has not been presented either wholly or in parts for any degree elsewhere. All sources of scholarly information used were dully acknowledged.

Signature

Date.....

JOSEPHS, EJEMEN RACHAEL

CERTIFICATION

We certify that this study titled **“NIGERIAN MARGINAL OILFIELD DEVELOPMENT IN LIGHT OF PETROLEUM PROFIT TAX, & PETROLEUM INDUSTRY ACT”** was carried out by **JOSEPHS, EJEMEN RACHAEL (19PCN02003)** of the Department of Petroleum Engineering, College of Engineering, Covenant University, Ota, Ogun State, Nigeria under the supervision of Dr. Charles, Onuh and it is adequate in scope and quality for the partial fulfilment of the requirement for the award of the Masters of Engineering Degree in Petroleum Engineering.

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DEDICATION

With gratitude in my heart, I dedicate this Masters dissertation to God Almighty who has made it possible for me to pursue this programme to successful completion. Also, to my amazing parents, Rev. Chris & Pharm. Mrs. Edith Josephs who have been a strong pillar of support to me.

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ABSTRACT

With soaring global demand and depleting supplies of crude oil, maximizing oil production has become a priority. Marginal fields are estimated to currently represent between 30% to 40% of world oil production and is gaining importance due to the natural decline in production from large mature fields. In general, fields with low-abundant reserves, poor economic performance, high cost and technical difficulty in development are called marginal fields or small fields. On the other hand, marginal fields in the Nigerian context refers to fields which have been abandoned by international oil companies or classified as such by the president. Following the recent passage of the Petroleum Industry Act (PIA) and the successful completion of the 2020 marginal field bid round, this work examines the current fiscal framework for the development of marginal oilfields in Nigeria. It also discusses other issues in the industry as it affects the marginal field initiative. ECLIPSE was used to generate a production profile and quantify the impact of certain development options and economic analysis was carried out to assess the feasibility of marginal oil field development under current fiscal terms. The economic analysis involved cash flow modeling, project profitability analysis, impact assessment and project sensitivity analysis. At the end of the study, it was observed that the project NPV will be higher under the PIA terms with exception of the oil injection scenario. When considering both oil and gas revenue the project will yield a much higher NPV under the terms of the PIA in all cases. In the basecase the project yielded an NPV of 228.45 MMUSD and 347.42 MMUSD in the injection scenario amounting to 16.67% and 13.99% above previous terms respectively. When considering only oil revenue the project will yield a positive NPV of 151.61 MMUSD in the basecase and 205.28 MMUSD in the injection scenario under the terms of the PIA which is 14.36% higher and 9.36% lower than previous terms respectively.

Keywords: Marginal Oil Fields, Local Content Policy, Petroleum Profit Tax, Petroleum Industry Bill, Legal and Regulatory Framework.