Sudan University of since and Technology

College of Graduate Studies

Physico-Chemical Evaluation of Dar blend

A Thesis Submitted in Fulfillment of the

Requirements for the Degree of Master of Science in Chemistry

By:

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Dedication

Dedicated to my mother,

My Father,

My sister,

My brothers,

Acknowledgment

I'm deeply grateful acknowledge my thanks to my supervisor Dr. AbdElssalamDfa Allah for his comments, direction and suggestion.

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ABSTRACT:

Sudanese crude oils are fromthesimplesttypesofcrudes due to their low sulfur content absence of mercury and vanadium from their composition. However the physicochemical evaluation ofDar Blend undertaken by this study reveled that some constituents of the blend studied have some negative impact on the overall evaluation of the crude blend. The result of the physicochemical analysis of samples collected from Petrodar Oil fields showed that theDar Blend is a heavy type crude, having API23.24 and of low Asephltenecontent (0.12%). However the Total Acid Number (TAN) was4.47% a value regarded as quite high and of adverse impact on the quality of the Dar blend some suggestion were propose to remedy the high value of TAN in order to improve the overall evaluation status of the crude investigated.

المستخلص :

تعد خامات النفط السوداني من أبسط أنواع الخامات ويرجع ذلك إلى قلة محتوى الكبريت وغياب الزئبق والفاناديوم من تكوينها. ولكن بين التقييم الفيزيوكيميائى الذي قامت به هذه الدراسة أن بعض مكونات مزيج دار ذات تأثير سلبي على التقييم الشامل لمزيج دار من النفط الخام. وأظهرت نتائج التحليل الفيزيوكيميائية) API وله كثافة 23.24 (, للعينات التي تم جمعها من حقول بتروادر أن مزيج الخام من النوع الثقيل ومحتوى منخفض من الاسفلتين (0.12٪). ولكن له نسبة عالية من المحتوى الحمضى 4.47٪ والتى تعتبر قيمة مرتفعة جدا وذات تأثير سلبي على جودة مزيج دار .وضعت الدراسة بعض الاقتراحات لعلاج ارتفاع قيمة المحتوى الحمضى من أجل تحسين التقييم الكلى للخام.

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