

Sudan University of Science and Technology

College of Graduate Studies

Effect of Pipeline Transportation On The Properties of Sudanese Crude Oil

**تأثير النقل بالأنابيب على مواصفات النفط
السوداني**

**A thesis Submitted to the Graduate
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Dedecation

I dedicate this thesis to my parents and my wife whose encouraged and fully supported me for every trials that comes in way .

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Abstract

The objective of this research is to study the effect of pipeline transportation on two types of Sudanese crude oil (Nile blend and Dar blend).

A certain batch of crude oil was traced in the two cases three samples of Nile blend and two samples of Dar blend were taken from various stations in the two pipeline.

All test in this research were performed in Central Petroleum Laboratories (CPL), except the Infrared Spectroscopy wich was done in Sudan University.

After analysis of samples we found that some physical and chemical properties of the two blends have changed of as a result of transportation by pipeline, such as density, viscosity, flash point and acidity and in the concentration of some metal like Iron and Nickel.

الخلاصة

الهدف من هذا البحث هو دراسة تاثير الانابيب علي مواصفات الخام السوداني (مزيحي النيل والدار نموذجاً).

تم تتبع دفعه واحده من الخام في الحالتين حيث اخذت 3 عينات من مزيح النيل وعينتين من خام الدار من محطات مختلفة في الخطتين الناقلين.

اجريت كل الاختبارات الوارده في هذا البحث بمختبرات النفط المركزيه باستثناء اختبار الاشعة تحت الحمراء الذي اجري بجامعة السودان.

بعد إجراء التحاليل وجد ان بعض الخصائص الفيزيائية والكيميائية طرأت عليها بعض التغيرات صعوداً او هبوطاً نتيجة للنقل بواسطة الانابيب مثل

الكثافة واللزوجة ونقطة الوميض والحمضية ونقطة الانسكاب وتركيز بعض العناصر الفلزية كالحديد.

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CHAPTER ONE

INTRODUCTION AND LITRETURE REVIEW

CHAPTER TWO

METHODS AND MATERAIL

CHAPTER THREE

RESULTS AND DISCUSSION

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