Effect of Pipeline Transportation On The Properties of Sudanese Crude Oil

A thesis Submitted to the Graduate College, Sudan University of Science and Technology for the Master Degree

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Dedication

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

It is a pleasure to thank the many people who made this thesis possible.

I am heartily thankful to my supervisor Dr. Abd Alslam Altarbibi, whose encouragement, guidance and support from the initial to the final level enabled me to develop an understanding of the subject.

I am grateful to Omer Adam Director of Centeral Petroleum Laboratories (CPL) and my colleagues there, for giving invaluable assistance.

I would also like to convey thanks to Dr. Hisham from Petrodar Company and Eg. Saieed from Greater Nile Company, and Sudan University of Science and Technology for providing facilities.

Lastly, I offer my regards and blessings to all of those who supported me in any respect during the completion of the project.
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 تأثير الأنابيب على مواصفات الخام السوداني (مزيجي النيل والدار نموذج جا).

تم تتبع دفع واحد من الخام في الحالتين حيث اخذت 3 عينات من مزيج النيل وعينتين من خام الدار من محطات مختلفة في الخطين الناقلين.

اجريت كل الاختبارات الواردة في هذا البحث بمختبرات النفط المركزية باستثناء اختبار الأشعة تحت الحمراء الذي اجري بجامعة السودان.

بعد إجراء التحليل وجد ان بعض الخصائص الفيزيائية والكيميائية ظهرت عليها بعض التغيرات صعودا أو هبوطا نتيجة للنقل بواسطة الأنابيب مثل
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