

## Effect Of Natural Gasoline Addition Upon The Characterization Of Iraqi Crude Oil

Ibtisam M. Kamal

Chemical Engineering Department, College of Engineering, University of Basrah

Faris J. M. Al-Imaral

Marine Science center, University of Basrah

Khlood K. Ali

Southern Petroleum company, Basrah-Iraq

### Abstract

Natural gasoline as a side product from south LPG factory has been injected in different volumes (5-35%) into Basrah normal grade crude oil in order to achieve an operation data for investigating the optimum effective quantity which positively modify the crude oil characteristics. A certain data with different schemes were released and many physical parameters were simulated. For pure crude oil and in presence of different % volume natural gasoline, specific gravity decreased from 0.8558 to 0.7919 g/cm<sup>3</sup>, API increased from 33.8 to 47.2 degrees, viscosity decreased from 9.01 to 2.428 centistock at 21.1 °C down to 3.643 to 1.36 centistock at 60 °C. Vapour pressure showed very slight increase from 5 to 5.44 psi and pour point decreased from -24 to < -40 °C. Sulphur contents were reduced in presence of natural gasoline while water content was nil. Properties of reference mixture from Zubair Reservoir No.1 (ZR1) were identical to those for 10% volume natural gasoline in crude oil. The study offers an instant relations and diagrams to be used for operational purposes.

### Introduction

Crude oil and natural gas are the most important sources of energy due to their contents which could be used in different fields. Since its discover, crude oil in Iraq effected by different events and undergoes a certain fluctuation. Petroleum