

Title

Hydraulic Study of Production Flow Lines from Well's Platforms to the SPF Process Station

Introduction

The produced fluid transportation through pipelines is influenced by the design and geometry of the flow lines, the operating conditions (pressure and temperature), and the type and flow of oil, water and gas that flows inside the pipes. These variables make the operation of the flow lines affect the stability of the producing wells production.

In Block A, particularly in the southern part, there are flow lines for produced coming from the platforms of the X, Y, Z and W fields and the operating parameters of these pipelines have varied over time mainly due to the flow of fluids as water, oil and gas produced on each platform.

The hydraulic study aims to identify the flow of different fluids such as oil, water and gas and the pressures that affect the operating condition of the flow lines. Thus, based on the study execute preventive actions to stabilize and optimize the production of oil and gas for the next 2 years assuring the flow of fluids.

The application of a solution to the problem should help the staff of the production area to develop the respective monitoring based on the daily production flows. Therefore, the solution might be an application or program that allows the entry of daily data and that shows the flow conditions or parameters of the lines and finally simulations with flow rates, pressures or other variables of the system to keep the flow lines operating safely and efficiently.

Objectives

- 1.- Prepare a hydraulic study of the operation of the flow lines that transport the produced fluid from well's platforms to the SPF process station.
- 2.- Design a file or dynamic program that allows the input of the daily production data in order to identify improvements in the operation and visualize the trend as a function of time.

Involved Careers

Petroleum Engineering

Mechanical Engineering

Chemical Engineering (Flow Design)

Systems Engineer (To develop the program code)

Additional Information

The study can be developed using any available software, however, the use of simulators such as Petroleum Experts IPM Prosper, OLGA, HYSYS, etc. is recommended. which are used widely in the oil industry.

Related with the second objective set out in the document, it is intended that the program or the dynamic application be useful for the area of production operations, that is, that it has free access and simple application.