Algerian offshore project bej-1: The appropriate mobile offshore drilling unit and the use of digitalization in optimizing drilling operations

Salah Eddine Bougroura
University of Algiers, Algeria

Abstract

Oil fields are exploited either by onshore or offshore drilling, the latter entail some additional requirements because it is different from the first. Hydrocarbon exploration at sea is one of the most important topics nowadays. It demands a floating support that meets different specifications in order to perfectly achieve the targeted objective. Through this modest work, we have conducted a general study of this type of exploration, we outlined the Algerian offshore field, we then studied the case of Bej1 project in the Algerian territorial waters which is classified as an Ultra deep-water (Total depth of 19700 feet including 6600 feet as water depth, we chose the most adequate Offshore Drilling unit for Bej1, and we emphasized the added value digitalization can bring in optimizing drilling programs throughout drilling parameters extracted from neighboring wells (WOB, Pump Strokes Rate, bit rpm...) delivering best Rate of penetration (ROP) for each and every single formation using the data available online of Volva field located in the north sea.

The main objectives of this study are:

Presenting the estimated potential of the Algerian offshore, focusing on the ideal choice of floating support that meets all the techno-economic requirements to successfully complete all drilling operations for an Algerian project BEJ-1.

The benefit digitalization can bring into drilling operations by optimizing programs, as illustrated in the software we were able to create relying on BIG DATA and Data mining.

Biography

Salah Eddine Bougroura has completed his Master degree from University of Algiers, Algeria.