The purpose of this paper is to examine whether the value of an oil deposit and the development decision are affected by using option pricing theory which allows for investment delayed possibility. Valuation of the considered oilfield is modeled as a compound option. We compare the value of discounted cash-flow (DCF) and real option value for an actual oil well in the Tunisian gulf, since the petroleum company must choose between three development alternatives. The results suggest that the case study company should defer his decision to develop the oil field for the three oilrig already considered. Although the oilrig near the already installed platform is less expensive but more risky, the option value does not sufficiently justify its adoption compared to the two other oilrigs which seem to be equivalent alternatives.