

Capability Statement

Cost Benefit Analysis of Well Construction

Producing water for the least cost by cost-benefit and economic analysis of the well design and well construction

At SUPRA, we are helping our clients reduce costs and increase efficiency of their operational in even the most difficult cases.

Our engineer will assess the initial design and propose the best well construction plan on pursuit of developing optimal cost-benefit advantages for clients, leads to the securing of stable operation and long-term water sustainability.

Please contact us to discuss further on how we can help you



Figure : SUPRA's professional drilling analyzing cost benefit of the well construction

As an investment, water well is generally expected to be in service for many years and should be both efficient and productive throughout its useful life

Under most conditions, these are reasonable expectations if the well was designed properly and constructed by high-quality materials, i.e., well casing and well screen. However, consultant and/or well drilling contractor are focusing on a disproportionate amount of attention on the CAPEX of the well rather than the long-term OPEX cost of its operation.

The cost of water from a well depends upon the CAPEX invested and the annual OPEX recurring costs. A large part of the recurring element derives from the cost of pumping and well maintenance. Both capital costs and pumping costs are interdependent to the degree that the design of the well affects the drawdown and thus the pumping cost.

The principle of cost benefit and economic analysis are to produce an equation representing the total cost in terms of a single well design parameter and to apply a discount cash flow procedure to calculate the present value. Differentiation of the present value expression with respect to the chosen parameter leads to the determination of the optimum value of that parameter for minimum water well investment cost. In designing wells, the objective is to produce water for the least cost.

In cost benefit and economic analysis, a distinction is normally made between economic and financial cost concepts and the general principles outlined in this session are valid for either approach. The cost of drilling and operating a well comprises the CAPEX investment plus annual OPEX recurring costs. A conventional discounting procedure can be applied to these costs and a present value obtained. It is this present value which must be minimized to obtain the optimum well design.

