Reservoir Engineering

Reservoir engineering is the use of measured data from a petroleum reservoir that is used to optimize the future performance of the reservoir. The future performance includes predicting the reservoir pressure of the reservoir and the production of petroleum as a result of that pressure change.

To predict future reservoir performance, a model of the reservoir is created using available data. This data can include pressure tests, production tests, logs, and cores. The models created from this data can either be a digital model or an analytical model. Digital models are most often referred to as a reservoir simulator. These models are quite complex and take a great deal of time and effort to create. To justify the cost of a digital model, the reservoir must be large or complex and represent a significant investment to the company. In many cases, an analytical model of the reservoir will suffice. An analytical model utilizes material balance or volumetric calculations combined with reservoir flow equations to model the reservoir.

Reservoir simulation is a specialization within reservoir engineering. Aeon Petroleum Consultants does not perform reservoir simulation. Aeon does, however, create and utilize analytical models of reservoirs. We have developed and analytical models to predict performance of natural gas reservoirs, helium reservoirs, CO2 reservoirs, solution drive oil reservoirs, gas and water injection response.