

## ABSTRACT

*The research area is in the Bekasap Formation, "IQ" field North Sumatra Basin which is an oil and gas field owned by PT. Bumi Siak Pusako. The research focused on the Bekasap Formation because the formation has the required aspects in the petroleum system, including sandstone which functions as reservoir rock and shale that serves as seal rock. This research was conducted using a descriptive analysis method, namely the concept of sequence stratigraphy with analysis using the concept of sequence stratigraphy by integrating well data in the form of well log data, mudlog.*

*This study uses 5 well data for the qualitative well analysis method which requires data. core, mudlog, and wireline log. Vertical lithology variations in the form of sandstone and shale. And this study uses 1 wells that have the most complete data to carry out petrophysical analysis that requires data header log, wireline log, mudlog and perforation data.*

*Based on qualitative analysis, the facies formed in the research area were deposited in an environment estuary and obtained facies associations in the form of mud flat, mixed flat and sand flat. Quantitative analysis is carried out by carrying out petrophysical calculations where the results obtained are in the form of shale volume by method gamma ray logs, and methods neutrons – density calculate porosity, the Indonesian method for determining saturation while determining permeability uses the eastern method.*

**Keywords:** North Sumatra Basin, Bekasap Formation, Petrophysics, Facies, Depositional Environment.