Upper Monteith and Lower Beattie Peaks Formations at the Sinclair and Albright Fields in West-Central Alberta: Some Views into the Reservoir Properties

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Abstract

Rocks from Nikanassin strata at the Sinclair, Albright and Knopcik fields in the study area (Figure 1) are the reservoirs for several gas, and mixed oil and gas pools. According to the gamma ray log responses, continuous and discontinuous, medium thick to tickly bedded sandstone packages can be locally mapped adjacent to the stratigraphic boundary of the Monteith and Beattie Peaks formations1. However, productive intervals are associated with the Monteith Formation, excluding the overlying Beattie Peaks unit; this log response is especially notable as the formation is buried more deeply (e.g., southwest of the study area). In this work, cores from two wells located in the southeast portion of the Sinclair field, and the north part of the Albright field, respectively, are analyzed sedimentologically and petrographically. This approach provides further insights into several geological factors affecting gas production potential of the investigated intervals.

The present study is based on the analysis of cored intervals from two wells located in the southeastern portion of the Sinclair field, and the north part of the Albright field (Figure 1). Core description, thin section and microprobe analyses are combined to yield a description of the more dominant macroscopic and microscopic features likely affecting the gas flow within the investigated stratigraphic intervals.