



CSPG ROCK ANALYSIS WORKSHOP

March 21-22, 2019 | University of Calgary & AER Core Research Centre

Mineralogy and texture on pseudo cuttings: The importance of rock fabric in the characterisation of the basal Doig Fm.

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The basal Doig Formation is a prospective unit commonly evaluated as part of the underlying Montney Formation play. It can be differentiated by its mineralogy which includes phosphates and the comparatively low abundance of feldspar. However, within the the unit, there are distinguishing features which can be futher subdivided using textural observations conducted at the micron level. These observations are made as part of the QEMSCAN analysis.

An example is provided from a core in Pouce Coupe area which was cut by Birchcliff Energy Ltd. A unqiue approach to sample collection and preparation was performed on this core, referred to as *pseudo cuttings*. This method requires that a thin, but continuous sliver of core is sectioned using a rock slabbing saw. These slivers are collected at 1 meter increments, throughout the entire 314 meters of core. Each one meter sample was crushed to a size fraction similar to that of drill cuttings.

On display at the Core Analysis Workshop will be the top 30 meter section of this core which encountered the basal Doig interval. The unit is sub-divided based on the proportion of different rock types (referred to as lithotypes).

Lithotype variations incorporate mineralogical abundance combined with textural information such as grain size, and cementing phases. As the QEMSCAN provides particle by particle analysis, it is possible to delineate textural changes i.e. facies throughout the section. Futhermore, data outputs including mineral abundance, mineral size, macro porosity, grain and bulk density are reported by lithotype. Therefore, detail is retained at a resolution below that of the sampled interval. Reported variables can be arranged and displayed by their respective lithotype making QEMSCAN a useful tool for understanding and highgrading reservoir intervals based on lithotype abundance.



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A core log of the section will be provided incorporating results from QEMSCAN analysis with sedimentary observations.