shales when gas is self-sourced and some of the gas is stored in the adsorbed state. The permeability is extremely low and is measured in fractions of nanodarcies with fluid flow paths occupying pores in the 30–120 nanometre range. The Gordondale Member is a shale unit in northeastern British Columbia, and overlies the Triassic-Jurassic unconformity.

The variables affecting shale gas reservoirs are known to include porosity, permeability, thickness and lateral extent, initial total organic carbon, thermal maturity, lithology/rock properties, exhumation, reservoir pressure, stress environment, and gas quality/composition. The level of heterogeneity in fine- and very fine-grained sedimentary rocks, however, makes it difficult to use a general rubric for evaluating individual plays based on analogous plays, as has been done in conventional reservoirs for years. This heterogeneity is an obstacle that is poorly understood, and complicates what variables are most important for each play.

Many of the data collected on the Gordondale Member, however, are speculative and sparse, so further thin section and total organic carbon analysis, as well as X-ray diffraction (XRD) work, is needed to find out what the key drivers are to both source rock quality and what affects the logs. In doing so, hopefully we can see on logs what is deemed sub-resolution in today's research and industry world. If successful, it will make log analysis much more useful for shale gas, as in many cases no core is available.

Early Jurassic Gordondale Member – shale gas potential and XRD, wire-line log, and TOC analysis

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Shales are fine-grained sedimentary rocks (particles <0.062 mm) with either detrital or production source, and termed gas

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