

A first look at the resource potential of the Tyler Formation in the Williston Basin of North Dakota

*Stephan Nordeng*¹

The Tyler Formation in the Williston Basin of North Dakota is a Pennsylvanian aged sequence of thinly bedded shallow marine to marginal marine terrestrial rocks deposited in a deltaic system that prograded from source areas to the south into a depocenter situated in west-central North Dakota. The total organic carbon content of the Tyler is not well established. However, the small dataset collected to date indicates that there are kerogen-rich stratigraphic intervals that contain good to excellent amounts of oil prone organic carbon. T_{max} values from the kerogen-rich samples are consistent with levels of organic maturity that should be capable of hydrocarbon generation. Areas in which the kerogen is likely the most mature also correspond with substantially elevated shale resistivities and modestly over-pressurized reservoir conditions.

¹North Dakota Geological Survey, Bismarck, ND

Stephan Nordeng is a subsurface geologist with the North Dakota Geological Survey. He received his B.S. and M.S. degrees in geology from Michigan Technological University and a Ph. D. in geology from Michigan State University. During the last four years Steve has been investigating the geologic factors associated with the current production from Bakken Formation with an eye on applying the lessons learned from the Bakken to other formations in the Williston Basin.