Collingwood Shale – Source Rock to Resource to Reserves

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The Ordovician Collingwood shale named for exposed oil shale near Collingwood Ontario Canada has been recognized as a petroleum source since it was quarried for oil retorting in 1859. This formation reverted to resource status with the development of the economically superior Devonian crude oils from Oil Springs Ontario in 1863.

Recent horizontal drilling and fracturing have found natural gas in apparent commercial quantities in the State Pioneer #1-3 well in the Northern Michigan basin. This discovery moves this shale from a known source rock back to a resource with reserves.

Detailed mapping and cross sections have been developed to illustrate the location, thickness, and character of the Collingwood shale, Utica, and Trenton formations from well logs of more than 300 penetrations in the Michigan basin. Extent and richness of the shale was interpreted to develop estimations of the potential reserves from the limited data. Some thinning or non-deposition is noted on Paleozoic structures. Depositional nature and hardground indicators favor the Collingwood shale as a member of the Trenton group and distinct from the overlying Utica shale.

Reservoir quality and productive capacity are extrapolated from early indicators of TOC, maturation and porosity through deliverability to hydrocarbon reserve estimations. The developing gas play will test the limits and productive value of this shale resource.