

subdivisions were based on gamma-log signatures and are listed as follows; the middle Banff C and E units as well as the upper Banff Markers A and B and the upper Banff Channels.

Two of these five members have good reservoir potential. The Middle Banff C is a nonconventional play interpreted as a shallow, intertidal oolitic grainstone shoal deposit. Porosity levels range from poor to good and are classified as intergranular, forming from dissolution within poorly-connected ooid and pelmatozoan grains. The poor connectivity of these grains results in low permeability values within the Banff C of about 1.10 md. The Upper Banff Channels are also believed to have high reservoir potential as a conventional resource play. These grainstone channels are interpreted as turbidite flows, and have similar attributes to the Yowlumne turbidite deposits in California. Although channel penetrating wells within the study area are limited, the submarine channel deposits with the thickest log responses seem to contain thin net pay intervals. Unrisked reserves evaluations were conducted using SPIES software for both the middle Banff C and the upper Banff Channel reservoirs yielding results of 0.9 and 2.1 BCF OGIP/DSU respectively.

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### Petroleum potential of the Mississippian Banff Formation

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The Mississippian Banff Formation is a carbonate ramp system consisting of carbonate and fine-grained clastic sedimentary rocks. Generally the Banff Formation can be divided into three informal members; the upper and middle carbonate-dominant members and the lower shale member. Detailed study of gamma-ray and sonic logs near the Fort Nelson area (northeastern British Columbia) has enabled subdivisions of carbonate layers within the upper and middle Banff. The five