

The Shannon Sandstone

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The Shannon Sandstone in the Powder River Basin has a moderately long history of production from Shelf Ridge Sandstones which were deposited in a nearshore marine setting. The Shannon, for the most part, produces from traps with a strong stratigraphic component. Based on core and outcrop work the sandstone has been subdivided into several facies based on (1) predominant sedimentary structures, (2) amount of energy presumed to have been involved in formation and (3) location on the ridges. The sandstones are generally glauconitic, fine to medium grained and include several types of clay including chlorite. Bioturbation ranges from sparse to moderate.

Strong correlation exists between production and facies types in both outcrop and in the subsurface. The Central Ridge Facies has excellent producing characteristics. The High-Energy Ridge-Margin Sandstone may even exceed the Central-Ridge Facies in terms of production. The Low-Energy Ridge-Margin Facies may be uneconomic in terms of production.

The Shannon Sandstone occurs in two benches in the 22-mile long Hartzog Draw Field and in the outcrops near Midwest, Wyoming. Both benches are productive at the 200 million barrel (primary) Hartzog Draw Field. Production maps show that production is asymmetrical with best production occurring on the east side where High-Energy Ridge Margin facies predominate. Lower to non-economic production occurs on the west side where Low-Energy Ridge-Margin Facies predominate.