

Mikwan Recompletion

Feb 2018

Background

Taylor Hill Exploration Ltd. currently has a quarter section lease in the Mikwan area located at NE/4, Section 26, Township 37, Range 22w4

Lower Mannville

The "Lower Mannville" is a term used to describe the lower-most sand/silt/ shale package the package rests upon the Paleozoic erosional surface, or less often, upon the Detrital zone. Above, the Ellerslie Member is conformably overlain by the shale in the Ostracod Formation.

The Lower Mannville sands represent high energy, coarsening upward beach deposits which improve in reservoir quality on the flanks of Paleozoic (Banff Fm.) structural highs. These sands were deposited around these Banff structures not completely covering the Banff highs. Deposits of the Lower Mannville interval in the Paleo "lows" were generally finer grained silts and shale. Although the Lower Mannville interval generally gains thickness in the Paleo "lows" its quality as reservoir rock deteriorates in the lower energy environment.

The porosity cut off for sands in the Lower Mannville is typically 9% on the Density log which has been indicated in red on the Cross Section. Pay zones in the Lower Mannville sands have porosity over 9.0% and resistivity over 10 ohms.. A oil/water contact is not apparent in the Lower Mannville pool in the area.

Several wells produce from the Lower Mannville interval adjacent to the Taylor Hill's lease. The nearest is 87 meters north of section 26 at 100/4-35-37-22w4/00. The well is producing approximately 1.6 10 M3 per day and has produced 8070 10 M3 since February 2007. The initial rate was only 3.1 10M3 and initial reservoir pressure of 7,990 kpa. Another adjacent well located at 100/6-27-37-22w4/00 produced 104,221 103M3 and in December 2016 produced at a rate 1.04 103M3.

The two wells on Taylor Hill's quarter section lease (100/16-26-37-22w4/00 and 100/2-26-37-22w4/00) are clean 5.0 to 9.0 meter thick sands with 18% density porosity. *(Note: the 100/2-26-37-22w4/00 well is vertical until below the top of the Banff Fm. when it was deviated into the deeper Wabamun Pay zone. For this reason the well encountered the Lower Mannville and the Glauconitic gas zones at the surface location in Lsd 9-26 i.e. 679.8 Meters south; 70 meters west of the Northeast corner of Section 26-37-22w4)* The 100/16-26-37-22w4/00 has 4.0 Meters of gas pay and the 100/2-26-37-22w4/00 has 5.0 Meters of gas pay. The well (100/2-26-) which has a Lower Mannville pay zone at 1425.5-1433m should be a very good gas producer.

Glauconitic Sandstone

The Glauconitic Sandstone is conformably overlain by the well developed Medicine River Coal and underlain by the Ostracod shale. The Glauconitic sand, shown at a depth of 1416-1420m in the 100/2-26 well, represents a high energy, coarsening upward sheet sand which is the first depositional sequence to completely cover the Paleozoic (Banff Fm.) structural highs. The sands appear to vary in thickness from 1.0 to 3.0 meters in thickness.

The best porosity in the Glauconitic Sand appears to be 22-24%. This can be seen on the Cross Section at the 100/ 2-26-037-22w4/00 well. The Glauconitic Sand, was penetrated at Lsd 9-26-37-22w4 on Taylor

Hill's lease in this deviated well. This well encountered a 2.6 meter Sandstone, at 1435-1438m) which is filled with Gas Pay. The resistivity cut off in the area for gas pay in the area is 8 ohms. The Gas/ Water contact for the Glauconitic sandstone in the Nevis pool is present at -570 M S.S.. Two wells (100/6-22- & 100/4-35-) encountered wet Glauconitic Sand on the Cross Section. The 16-26 well shows signs of depletion as the resistivity are lower than normally expected indicating that the waterline may have moved higher. The wet wells have resistivity of 3-6 ohms in the sand. The sand in the well at 100/2-26-37-22w4 (1416-1419M) does not show any signs of depletion from the resistivity curve. Resistivity is high (30-40 ohms)and the sand is well developed with obvious Density Neutron cross over. The original reservoir pressure in the Glauconitic Sand reservoir was 8950 Kpa.

There are several wells producing, or have recently produced, in the Glauconitic pool currently including laterally adjacent wells located at 100/6-25-37-22w4 well immediately to the west which produced at 2.95 103M3 per day in July 2016 and produced 56155 103M3 of gas , 100/13-23-37-22w4/00, to the south, which produced at 2.68 103 M3 in December, 2016 and has produced a cumulative volume of 60,190 103M3.

The well on Taylor Hill's lease at 100/2-26-37-22w4 (Glauconitic SS encountered at Lsd 9-26) has excellent petro physical characteristics and should be a good producer when recompleted.