Macoun-Steelman: Midale

Freehold ROYALTIES LTD.

Summary

The Mississippian Midale in southeast Saskatchewan has produced substantial hydrocarbons since the 1950's. Since 2012, several companies have utilized multi-stage hydraulic fracturing in lower permeability Midale reservoirs with impressive results. Low production decline rates and existing facilities lead to strong economics, and the play is further boosted by large original oil-in-place (OOIP) volumes as it covers a large geographic area. The reservoirs are dolostones in the upper "Marly" unit and limestone in the lower "Vuggy" unit. The overlying Midale Evaporite, an extensive evaporitic mud flat/playa lake deposit within the basal Ratcliffe Beds, provides a seal for hydrocarbon accumulation.

In the Steelman and Macoun areas, operators have been drilling open hole horizontal wells in some areas, as well as multi-stage hydraulically fracturing wells where deliverability is reduced.

Play Synopsis

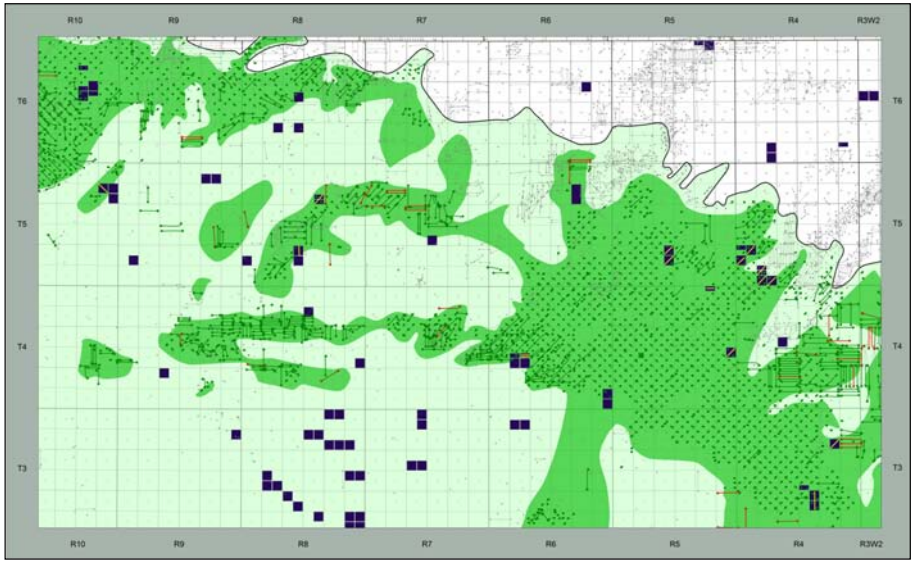
Fluid	Oil, 36 API
Active operators	Crescent Point, Spartan
Current Activity	Industry players are drilling HZ wells around fringes of historical vertical unit production
Completions	Multi-stage Hydraulic Fracturing
Depth	1300-1400m
Lithology	Carbonate
Average Porosity	10%
Water Saturation	40%
Type well EUR	64Mboe
Type well IP(90)	45 boed

Capital Costs

DCET	$1.05MM

With 20% Lessor Royalty

IRR BT	25%
Payout	3.5 years
F&D	$16.34/boe
Netback (IP90)	$43.94/boe
Recycle Ratio	2.69



FRU Fee – Available Midale P&NG
Midale Higher Deliverability
Midale Oil Pool
Midale Producers
Midale RR since 2016/01
Midale Locations

Type Curve Analysis