

Workman-Alameda: Midale

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. 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.

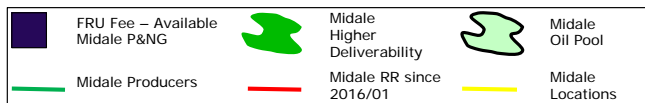
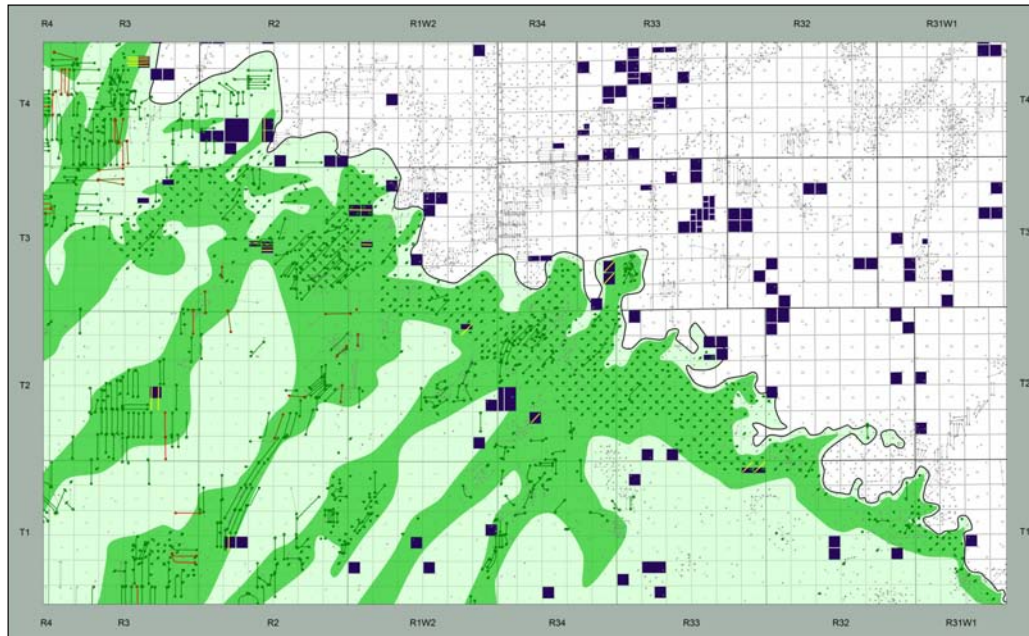
In the Steelman and Workman areas, operators have been drilling open hole horizontal wells in some areas, as well as multi-stage hydraulically fracturing wells where deliverability is reduced.

Play Synopsis

Fluid	Oil, 36-40 API
Active operators	Crescent Point,
Spartan	
Current Activity	HZ drilling in areas
with	low recovery factor
Completions	Open Hole and Multi-
stage	Hydraulic Fracturing
Depth	1200-1250m
Lithology	Carbonate
Average Porosity	15%
Water Saturation	35%
Type well EUR	70 Mboe
Type well IP(90)	80 boed

Capital Costs

DCET	\$1.05MM
With 20% Lessor Royalty	
IRR BT	63%
Payout	1.5 years
F&D	\$14.98/boe
Netback (IP90)	\$41.35/boe
Recycle Ratio	2.76



Type Curve Analysis

