

Dunvegan Deep Basin Hydrodynamics Study

Uphole Potential

Introduction

As operators look to maximize returns on their existing properties, or to invest in new opportunities, they often look “uphole” to shallower productive zones. The Upper Cretaceous Dunvegan Formation fits that bill in the Deep Basin of west-central Alberta. The Dunvegan was deposited in a fluvial-deltaic environment with multiple stacked sands that produce oil, gas and condensate. The play scale is similar to the present day Mississippi Delta and has both conventional and unconventional aspects.

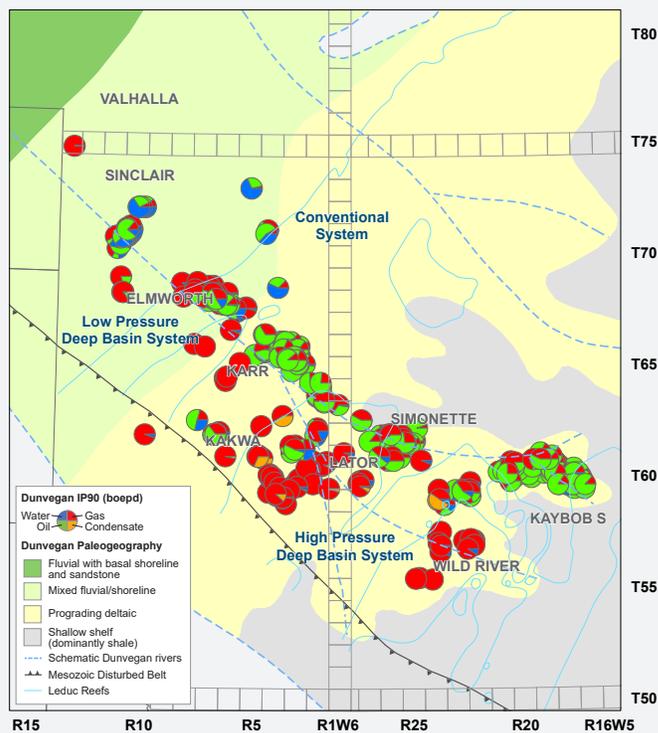
Dunvegan Hydrodynamics and Geothermics

CDL’s recently updated Dunvegan hydrodynamics data, maps and graphs are useful tools for focussing on areas that can provide the highest reserves and deliverability while mitigating fluid phase risk.

Hydrodynamics and geothermics plays an important role in liquids distribution in the Dunvegan. The majority of Dunvegan development has occurred in conventional higher permeability/porosity reservoirs in the northeast margin of the trend in discrete stratigraphic and structural traps. Downdip the Dunvegan grades to an unconventional Deep Basin-style hydrocarbon system with a complex interplay between an underpressured oil dominated system and a higher pressured oil, liquids and gas fairway. This varying pressure regime has:

- » A predictable impact on OGIP
- » A massive impact on water risk
- » Correlates strongly to liquids yields

An IP90 bubble map for Dunvegan producers spudded since 2010 is shown above. Since 2018, activity has increased in the Dunvegan, with IP90 oil rates ranging up to 600 bopd, and the average being around 150 to 200 bopd. Strath and Tourmaline lead the way in the high pressure area at Kakwa, while CNRL leads the way at Karr, which straddles the high and low pressure Deep Basin regimes. The most successful wells in these areas have IP90 rates from 650–900 boepd, with liquids rates just under 300 bcpd and oil from 500–600 bopd.



Dunvegan Paleogeography and IP90 Production
Paleogeography from WCSB Atlas, 1994. Production data supplied by geoLOGIC

Deliverables

- » Hydraulic Head, Pressure-Depth Ratio and Absolute Pressure Maps
- » Detailed Pressure Database
- » Permian and Younger Geothermal Gradient Map
- » Base of Fish Scales Isotherm
- » Summary Map with Production and Key Pressure Contours and Isotherms
- » Pertinent CDL Digest Articles from 2016 to mid-2020
- » Shapefiles

Purchase Details

\$9,500 plus applicable taxes

Contact Client Relations
500, 622 – 5 Avenue SW, Calgary AB, T2P 0M6
T 403.269.3644 E info@canadiandiscovery.com

DBGRII-V01-2020.09.15

Canadian
Discovery Ltd.
www.canadiandiscovery.com