

Application: DNA WellSpace®

Estimate drainage height to optimize well placement

Location: Permian Basin

CHALLENGE

In order to optimize well spacing, operator needed to quantify vertical drainage height of a lateral well.

SOLUTION

- Well cuttings from vertical pilot well were obtained from mudlogger
- Well cutting DNA was extracted and analyzed to develop initial end members of each stratigraphic interval
- Produced oil from a sidetracked lateral was sampled without operational interruptions during two months of initial production
- Subsurface DNA from produced fluids was compared to vertical DNA baseline to estimate the drainage height

RESULTS

- An estimated drainage height was clearly delineated from formation-associated DNA signal and provided to the operator
- Drainage height estimate was confirmed by unblinding the landing zone and operator drainage model
- Analysis used to refine operator subsurface model and support optimization of field development
- Drainage height monitoring on-going to continue field optimization

