

# CASE STUDY

Application: **Characterize Lateral Formation Variability**

Location: Eagle Ford Shale

## CHALLENGE

Operator engaged Biota to determine formation variability along the wellbore lateral.

## EVALUATION

- Well cuttings were collected every 50' along the lateral wellbore during drilling.
- Subsurface DNA was successfully extracted from well cuttings and used to determine the DNA profile along the lateral.
- In order to visualize lateral variation, DNA markers were grouped into DNA families. The top 20 groupings are shown in the graph.

## RESULTS AND VALUE

- Biota's analysis showed that the first two-thirds of the lateral have a different DNA composition compared to the final one-third of the lateral.
- This confirmed a fault passing through at the footage represented by the dashed line (shown in the graph below) consistent with other subsurface data sources.
- Lateral heterogeneity enhances well placement and lateral length for future wells.
- Once in production, Biota can provide the operator relative production contribution along the lateral by analyzing the DNA of produced fluids.

DNA Markers in Well Cuttings

