Bottomhole Pressure Prediction for Geothermal Aerated Drilling

CHALLENGE

Aerated drilling is often performed in geothermal drilling operations with the primary motivation to lower the bottom hole circulation pressure to reduce losses. However, because of the compressible fluid involved, verifying computer modeling of multiphase flow in an aerated drilling operation is a challenge.

SOLUTION

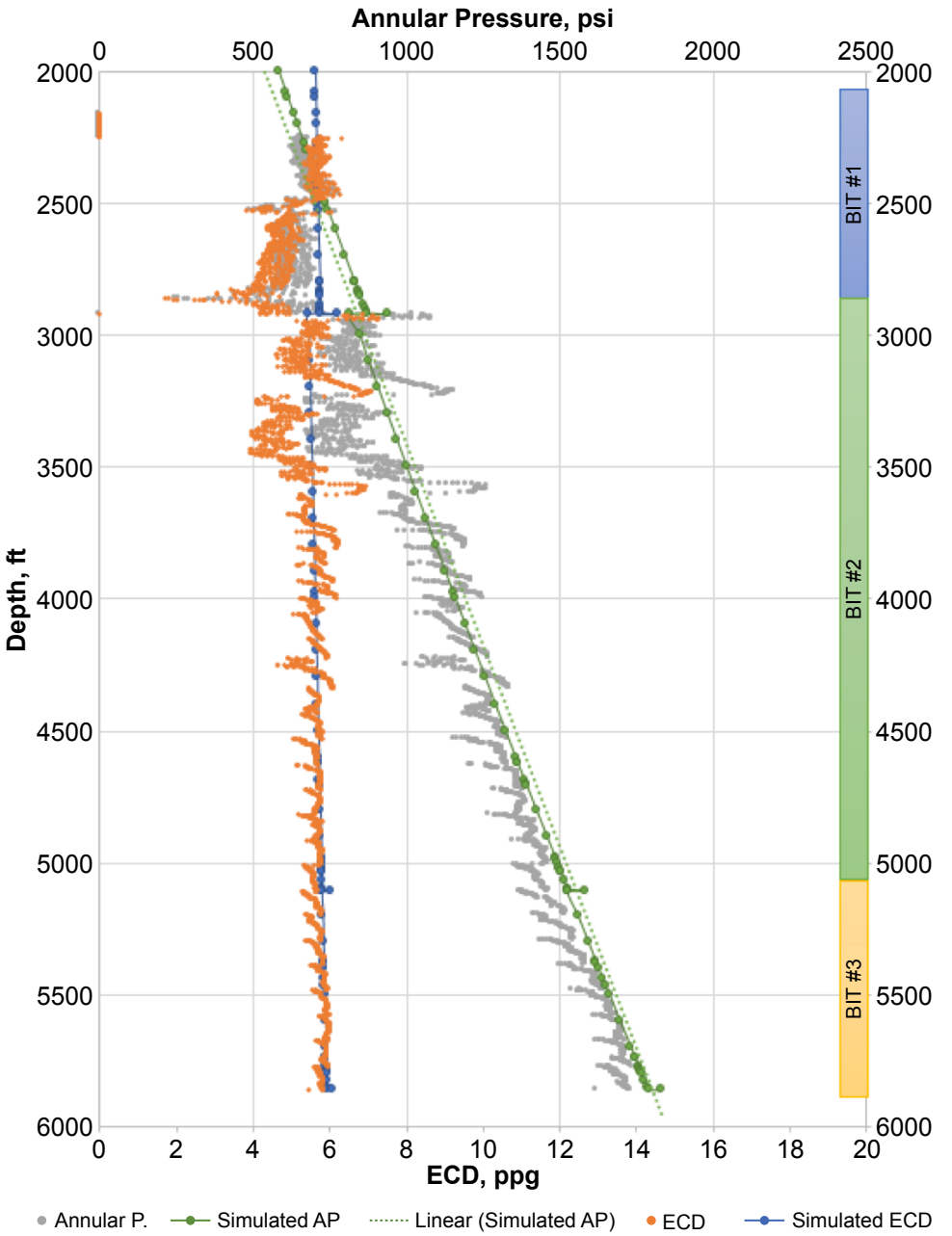
Compare simulation results with field measurements.

RESULTS

Closely matching results were found between UBDPRO and a field operation in the Philippines.

Pegasus Vertex, Inc.'s managed pressure drilling software, UBDPRO, predicts pump pressure, bottom hole pressure and cutting transport for air/mist/foam, and other 2-phase drilling fluids.

The following case study compares the UBDPRO predicted annular pressure/ ECD with the field data obtained from aerated geothermal drilling operations in the Philippines. The results show good agreement of prediction and measurements.



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