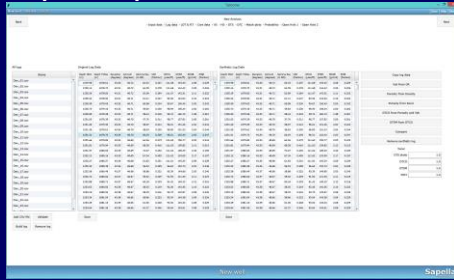
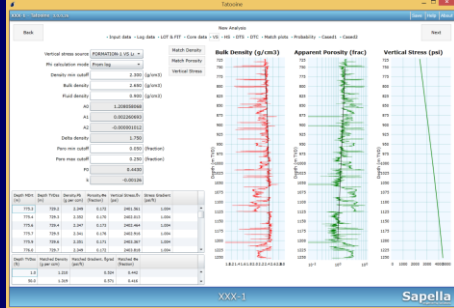


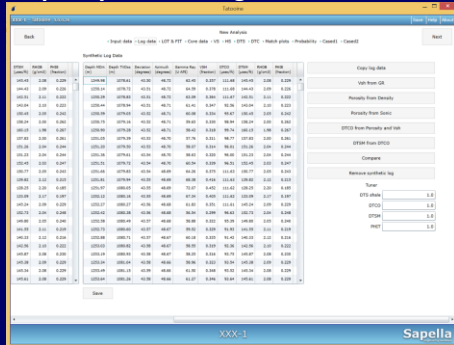
Step 1-Setup Field Database



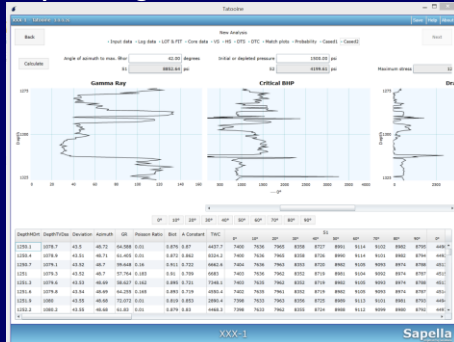
Step 2- Principal Stress Calculation and Rock Mechanical Properties Calibration using Log and Core Data



Step 3-Synthetic Log Generation



Step 4-Along-hole Results



Step 5-Compare Probabilistic Results



TATAOUINE 4.0 GEOMECHANICAL SOFTWARE

OBJECTIVES

Borehole instability and sand control issues cost the petroleum industry many billions of dollars annually. Poorly managed, solids production can lead to a loss of well productivity, equipment erosion, and associated integrity problems which may result in safety issues and expensive interventions to rectify.

Sapella has developed Tataouine, a software App that provides both the less experienced and seasoned practitioner with quick access to the advanced techniques required to evaluate a wells sanding potential.

DESCRIPTION

Tataouine estimates the probability of mechanical failure in the near wellbore. The model is based on industry standard empirical and analytic formulations using scaled laboratory TWC test data to predict sand failure in horizontal, deviated and vertical wells for both open hole or cased and perforated wells.

The model calculates the production conditions under which the formation will fail in shear. Tataouine derived rock strength parameters are calculated from open hole log data, calibrated where possible, against core test data.

Different failure criteria can be applied for life of well (LoW) production or injection conditions.

The tool allows easy management of vast amounts of log data, hence a geotechnical database can be set up easily.

BUSINESS DRIVERS

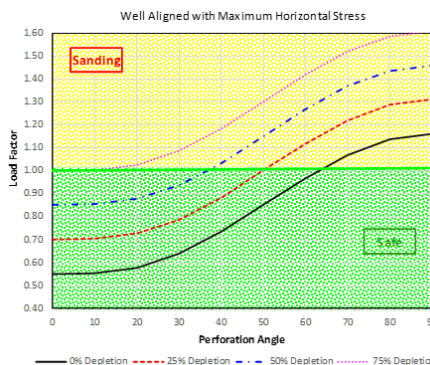
Geomechanics is a key skill set required for field development and production phases. Completion engineers require an easy to use but comprehensive tool to assist in the sand control decision making process. Production engineers need a flexible methodology to determine optimal production rates and pressures, either to avoid or limit sand production as production conditions change throughout field life.

The automated workflows built into Tataouine can be completed quickly and with high certainty, saving time and costs. The process has been used and implemented 1000s of times and the processes in each module are well proven.

Log .las files can easily be imported into a field geomechanics database. Results for each field, zone and well can be stored and revisited in the future.

WHAT IS UNIQUE

- Easy to use.
- Full field geomechanics database integrated in the model.
- Generation and calibration of synthetic logs.
- Well sanding can be analysed in detail, whether open hole, cased or completed with downhole sand control.
- Intuitive log file (.las) importer.



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