SPWLA2018
June 2–6, 2018 | London

STAND
G12/G13

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Exploration
& Production
Software

2018 Global SPWLA Annual Meeting

June 2-6, 2018
Old Billingsgate, London, UK
Stand G12/G13

Presentation Schedule

Monday June 4	Title	Presenter
9:30 AM	**What's New in Geolog 18**	Richard Pelling, Director - Formation Evaluation & Drilling Engineering
2:30 PM	**Geomechanics and Pore Pressure Prediction**	Nicolas Poete, Petrophysical Advisor
3:00 PM	**What's New in Geolog 18**	Richard Pelling, Director - Formation Evaluation & Drilling Engineering
3:30 PM	**Formation Test Analysis and QC**	Gavin Baldwin, Senior Technical Sales Advisor
Tuesday June 5		
9:00 AM	**What's New in Geolog 18**	Richard Pelling, Director - Formation Evaluation & Drilling Engineering
9:30 AM	**Formation Test Analysis and QC**	Gavin Baldwin, Senior Technical Sales Advisor
10:00 AM	**Geomechanics and Pore Pressure Prediction**	Nicolas Poete, Petrophysical Advisor
2:30 PM	**What's New in Geolog 18**	Richard Pelling, Director - Formation Evaluation & Drilling Engineering
3:00 PM	**Quantifying Petrophysical Uncertainty**	Nicolas Poete, Petrophysical Advisor
Wednesday June 6		
9:00 AM	**What's New in Geolog 18**	Richard Pelling, Director - Formation Evaluation & Drilling Engineering
9:30 AM	**Processing 2D NMR from Multiple Vendors**	Gavin Baldwin, Senior Technical Sales Advisor
10:00 AM	**Quantifying Petrophysical Uncertainty**	Nicolas Poete, Petrophysical Advisor

Abstracts

What's New in Geolog 18
Geolog 18 delivers a wide range of new functionality designed to increase productivity and improve reservoir characterization. This presentation features an overview of the new release. Highlights include

- **General uncertainty** - Geolog's module launcher now features an option to run modules (including existing user created custom modules) in Monte Carlo mode with user defined distributions on input variables in order to quantify uncertainties on the output results
- **Automatic reporting** - Customizable report templates featuring text, tables and graphics with live links to the data enables automatic report generation to rapidly deliver results in a consistent format.
- New **formation test QC** functionality - Allows rapid loading, analysis and QC of formation test data, and quantification of uncertainties on picked pressure points, gradients and contacts.
- Support for **Python scripting** - Delivers an additional customization option which enables access to a range of third-party libraries for data analysis and machine learning.

Geomechanics and Pore Pressure Prediction
To ensure well stability and assess optimal orientation for fracture development, drilling professionals need to understand regional stress orientations and magnitudes, and how they affect rock properties in the formations around a wellbore. The Geolog geomechanics functionality provides a comprehensive series of calculations and interactive tools that contribute to that understanding by assessing mechanical conditions around the wellbore. This presentation will demonstrate the geomechanics workflow and highlight new features introduced in Geolog 18.

Formation Test Analysis and QC
Wireline and LWD formation tests are extremely useful in determining actual in situ pressure measurements of the formation of interest, establishing pressure gradients, identifying the reservoir fluid type, locating fluid contacts and calculating formation fluid mobility. They measure formation pressure by inserting an instrument probe inside the borehole wall and performing a mini draw down and buildup by withdrawing a small amount of formation fluid. Pressure then builds to the formation pore pressure. The gradient and samples obtained from formation testing are crucial in determining thickness, quality, and connectivity of the hydrocarbon zone, and in turn, properly assessing the commercial viability of the well.

Geolog 18 gives geoscientists the opportunity to load, format, interpret and perhaps most importantly, QC formation test data from all major formation test tools prior to subsequent gradient analysis. The adoption of Geolog's embedded Monte Carlo uncertainty analysis generates uncertainties on formation test pressure points, on the gradients, and ultimately, the position of fluid contacts picked using these tests. This presentation will also feature a new reporting module for increased speed and flexibility when presenting results.

Processing 2D NMR from Multiple Vendors
Advances in NMR logging over the last decade provide greater accuracy in the determination of formation porosity, permeability and fluid typing. Despite many similarities in tool design, the format of the raw data varies considerably from one vendor to another. Geolog provides tool-specific formatting of 2D NMR data from a variety of service companies, and a generic inversion and interpretation workflow that allows customers to get the most out of their data in as short a time as possible. This presentation will look at the formatting and subsequent processing of 2D NMR data from two commonly run tools.

Quantifying Petrophysical Uncertainty
The assessment of uncertainties is a key and mandatory deliverable of petrophysical interpretation, in order to assess its impact on reserves estimates. Initially available for the deterministic petrophysics workflow, uncertainty assessment was added to the Multimin optimizing petrophysics module in Geolog 8, and has now been made available in a general form which can be applied to any Geolog module (including those created by users). Best case scenario results along with full result distributions are produced, giving the petrophysicist a better understanding of the uncertainty range in every aspect of their interpretation. This presentation will illustrate the range of options available for quantifying uncertainty in Geolog 18.