

Techlog Production Logging

Integrate production logging measurements for comprehensive well evaluation

APPLICATIONS

- Flow contributions
- Leak detection
- Production optimization
- Reservoir surveillance
- Water shutoff
- Crossflow evaluation
- Completion staging

BENEFITS

- Complete well evaluation, combining openhole and cased hole log data, well integrity, and production logging on one platform
- Robust PVT and flow-assurance science, leading to high-confidence results
- Enhanced integration with the Petrel* E&P software platform and ECLIPSE* industry-reference reservoir simulator

FEATURES

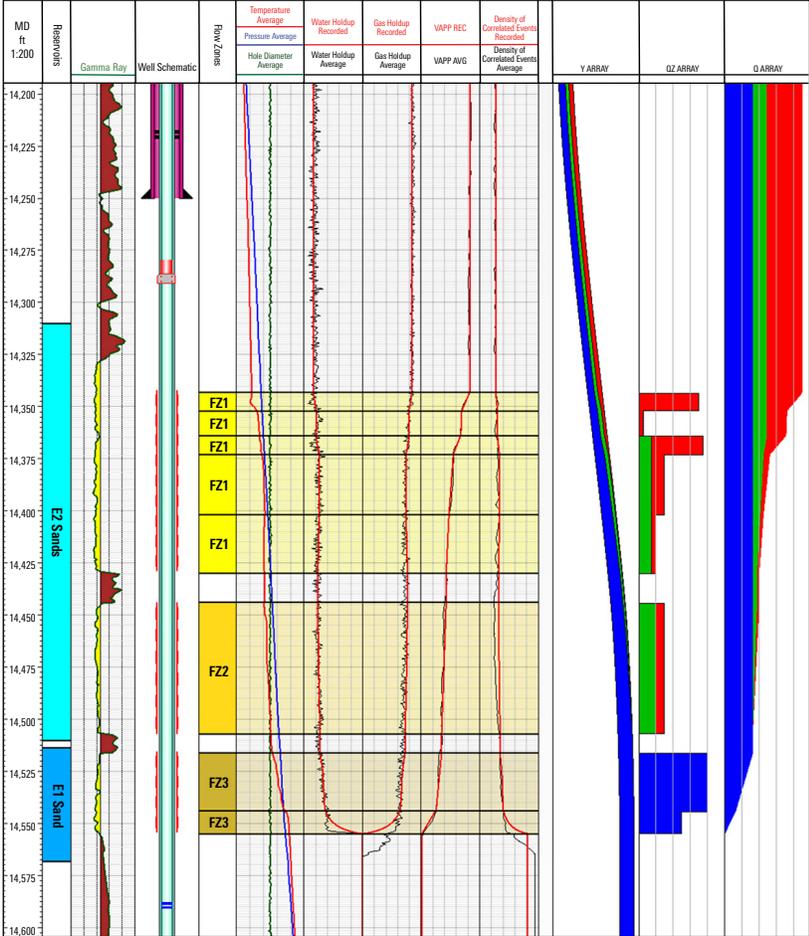
- Applicability to producing and injection wells
- Comprehensive workflow
- Support for multiprobe tools
- Latest industry-validated flow correlations
- Horizontal well interpretation using proprietary algorithms
- Extensive PVT libraries

Production logging is the measurement of downhole fluid parameters on a zone-by-zone basis to yield information about the type and movement of fluids within and near the wellbore. There are many applications for production logging measurements. These include routine surveillance of wells and reservoirs to monitor changes in the zonal contributions, analysis of new completions to optimize production, and investigation of problems, such as leaks, water entry, or unwanted crossflow.

The Techlog wellbore software platform enables you to perform a complete production logging workflow, from raw acquisition data to interpreted zonal flow rates. The workflow is accomplished efficiently with a suite of dedicated procedures designed to extract the most information from the data.

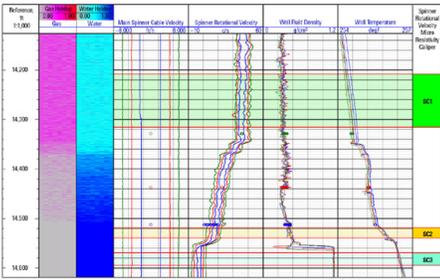
Data preparation

The Techlog Production Logging module streamlines the preparation of raw log data from any service provider through the use of an automated suite of workflow steps. The module is capable of handling depth- and time-based production logging data, and it rapidly organizes the data for immediate use in the visualization and processing workflows. Many built-in tool configurations are available and can be customized if needed.

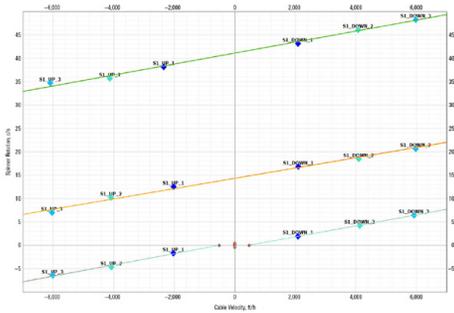


Compare computed flow rate and holdup data with input information, such as reservoir zones, well schematic, and matched downhole measurements.

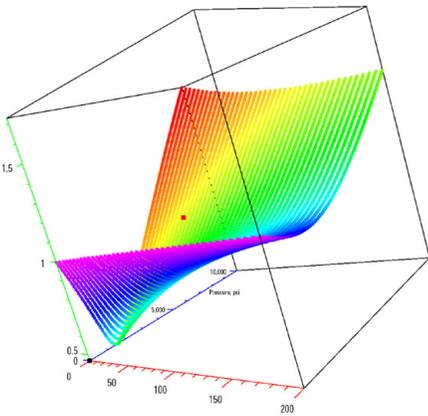
Techlog Production Logging



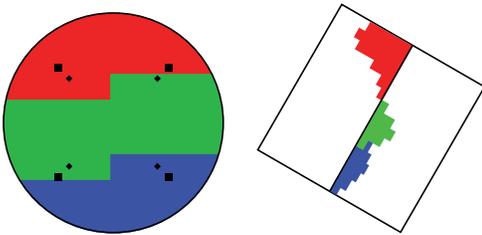
Perform quality control interactively by plotting holdup images, selected log curves, and associated stations together with calibration zones.



Calibrate spinners with automatically computed slopes, intercepts, and thresholds that can be manually adjusted, if necessary.



Use Techlog 3D plots for graphical quality control.



Visualize multisensor data with cross-sectional profiles.

Data visualization and quality control

Data quality control is a fundamental part of any production logging workflow. The first stage is viewing the raw data in an interactive setting to identify which logging runs provide the most dependable data and which suffer from anomalies. Different runs can be automatically depth-aligned and sections of bad data can be flagged and ignored in subsequent processing steps. Image logs can be created from probe data to better visualize the downhole environment.

Spinner calibration

The majority of production logging interpretations require the calibration of the spinners by plotting recorded measurements against cable velocity. This user-friendly interface allows the analyst to determine the best calibration results regardless of the situation. The slopes, intercepts, and thresholds are computed automatically and can be manually changed or recomputed following simple editing. After calibration, the apparent velocity is computed for each pass.

Data stacking

The data stacking utility enables you to combine multiple passes into one final dataset and perform averaging of multiple curves within a logging pass. There is extensive control over the stacking methodology, including the optional use of statistical inputs.

Fluid properties

Reservoir PVT data can be utilized to full capability using the extensive Schlumberger library of fluid correlations. The properties can be computed or imported from tables and easily verified using the built-in visualization capabilities of the Techlog platform.

Multisensor array tools

The Techlog Production Logging module includes specific processing and plots designed for quality control and interpretation of array tool data from any provider. This includes the Schlumberger algorithms for array-holdup profiles, using data from horizontal and deviated well production logging systems.

Zonal rate computation

The inversion of logged data to downhole flow rates is performed using the OLGA* dynamic multiphase flow simulator, which is designed for all deviations, including horizontal wells. Extensive control over the matching process enables the user to achieve the best possible interpretation.

Selective inflow profile

When multiple production logging surveys are available, it is possible to perform a selective inflow profile analysis to estimate the reservoir pressure and absolute open flow potential.

Report generation

A built-in report generator saves time and enhances standardization by formatting plots, tables, and logs into a preformatted template, which can be customized for individual needs.

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