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Brochure

Well Test Analysis

Aspen Interpret™





Efficient and Effective Pressure Transient Analysis

Aspen Interpret has an established reputation for providing accurate and reliable well test interpretations, reinforced by over 25 years of use as an effective petroleum engineering tool. It is an industry standard for the performance of pressure transient analysis from a wide variety of data sources, combined with a user interface that is both easy to use and intuitive. Aspen Interpret has evolved from a simple calculation tool for reservoir engineers into an integral part of the design and analysis of pressure transients from traditional production tests, drillstem tests (DST), wireline formation tests (WFT) and testing-while-drilling on exploration, appraisal or production wells.

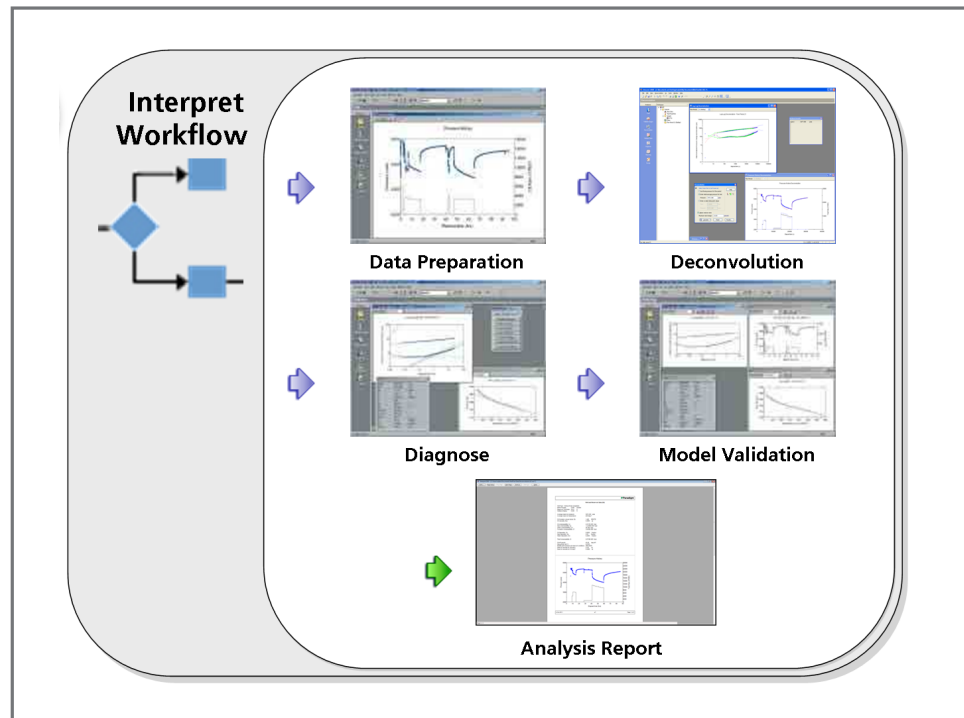
Aspen Interpret offers robust interpretation methods backed by extensive use in business and academic environments, and combines powerful modeling capabilities with an intuitive user interface. Running under Microsoft® Windows®, it has the native feel of a Windows application and is fully interoperable with all Microsoft Office applications.

Powerful and intuitive diagnostics enable reservoir engineers to build even the most complex models. The analysis is validated and optimized using a combination of analysis plots. This results in the highest interpretation quality and user confidence.

From conventional Horner analysis to advanced type curve analysis techniques using pressure derivatives, Aspen Interpret follows a rigorous methodology, and is easy to learn and use. Its interactive, graphical interface enables users to quickly:

- Select, display and edit pressure and pressure derivative data interactively, for any flow period in the test
- Validate test data using comprehensive gauge comparison and rate validation plots
- Perform deconvolution to generate a more detailed pressure history response for determining reservoir behavior

- Diagnose test behavior by identifying flow regime characteristics
- Automatically generate a model that is tailored to the complexity of the data, then fine-tune the match using fast and robust non-linear regression
- Monitor current analysis results on the screen at any time during analysis
- Validate the analysis by simulating the response of the entire test
- Generate an analysis report and incorporate it into Microsoft Office documents
- Carry out sensitivity analysis on selected model combinations using the Design Case Wizard



The Aspen Interpret workflow is ideal for analyzing a variety of different tests, ranging from traditional production and drillstem tests to wireline formation tests.

Improved Efficiency

Aspen Interpret delivers significant advantages to the analysis of Wireline Formation Tests (WFTs). Its ability to automatically calculate formation test pressure events ensures a productive and highly efficient workflow for pressure transient interpretation from an increasingly wider variety of sources. This allows engineers to:

- Easily import data delivered from service companies in DLIS or LAS format with no effective limits on the amount of data (e.g. gauges with up to 4 million data points)
- Display and validate data quickly using an intuitive interface
- Generate and validate multiple models for each test
- Collate and compare the test results with other Quality Control (QC) items to perform additional interpretation, such as gradient analysis

These product enhancements ensure that Aspen Interpret continues to be a robust and versatile tool for petroleum and reservoir engineers. Petrophysicists looking to maximize the available wireline formation and pressure transient test information can also benefit from Aspen Interpret.



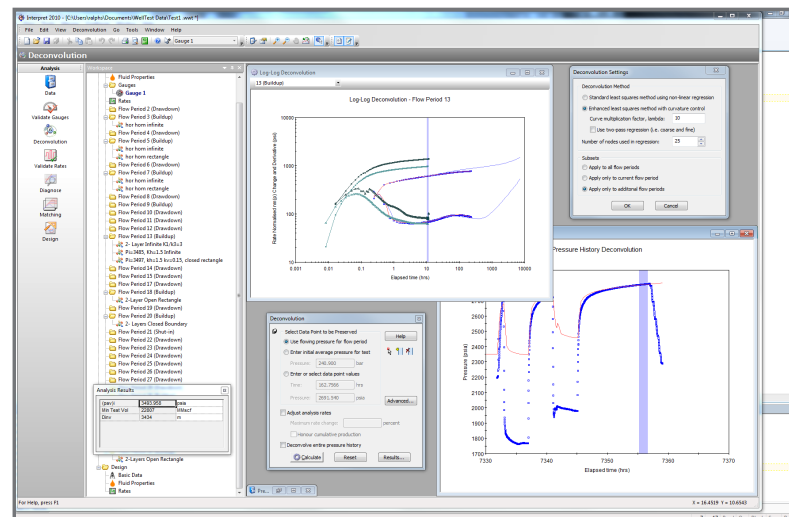
Deconvolution: A Practical Approach

The use of deconvolution in well test interpretation has long been established, and Aspen Interpret was one of the first commercial well test packages to offer this as a diagnostic tool.

As the amount and quality of test data lessens, it has become increasingly necessary to use deconvolution to assist in the diagnosis, particularly for determining late time behavior such as the existence of boundaries.

Aspen Interpret provides two different methods for performing deconvolution, both of which are based on a least-square, non-linear regression approach. These solutions provide a realistic pressure response, and the extended method ensures additional regularization control for generating a smoother response. Both methods offer additional controls for accurately selecting the data to be deconvolved and options for adjusting the rates, if necessary.

The result is a generated response that can be vital for determining the best model to use for the test.



Total Least Square Deconvolution enables use of the complete pressure history of the well and further insight into the reservoir.



About AspenTech

Aspen Technology, Inc. (NASDAQ: AZPN) is a global software leader helping industries at the forefront of the world's dual challenge meet the increasing demand for resources from a rapidly growing population in a profitable and sustainable manner. AspenTech solutions address complex environments where it is critical to optimize the asset design, operation and maintenance lifecycle. Through our unique combination of deep domain expertise and innovation, customers in capital-intensive industries can run their assets safer, greener, longer and faster to improve their operational excellence.

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