

Transients+

WELL TEST DESIGN AND ANALYSIS

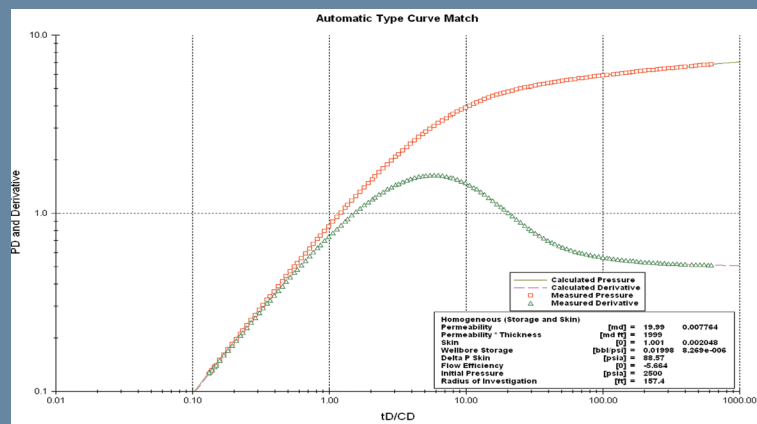
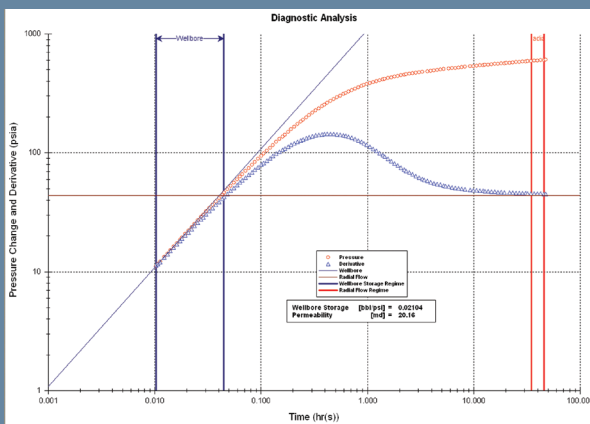


FEATURES:

- ❑ FULL SUITE OF RESERVOIR AND COMPLETION MODELS
- ❑ COMPLETE SET OF WELL TEST DESIGN AND ANALYSIS TOOLS
- ❑ FULL SET OF ROCK/FLUID PROPERTY CORRELATIONS
- ❑ SIMULTANEOUS VIEW OF MULTIPLE ANALYSES
- ❑ DECONVOLUTION ANALYSIS WITH A SERIES OF PERFORMANCE PLOTS
- ❑ GUI BASED DATA EDITOR FOR EASY EDITING OF IMPORTED DATA
- ❑ NUMERICAL SIMULATION CAPABILITY

BENEFITS:

- ❑ MODULES LINKED INTERNALLY FOR EASY MANAGEMENT OF DATA
- ❑ FAST AND ACCURATE ANALYSIS RESULTS
- ❑ CUSTOMIZED DISPLAY SETTINGS
- ❑ UNIT SYSTEM FLEXIBILITY
- ❑ EASY REPORTING AND ANALYSIS EXPORT
- ❑ ROBUST INPUT DATA HANDLING AND IMPORT CAPABILITY





Transients+ is a comprehensive, state-of-the-art well test analysis and design package. It takes advantage of the most recent computational and graphical advances in user interface design. Transients+ draws on our extensive and distinguished experience in worldwide oil and gas consulting to perform cutting-edge analysis. Transients+ has a full suite of reservoir & completion models and can handle analysis of complex pressure transient analysis scenarios.

Intuitive and Interactive

- **Tree Structure and Tabbed View:** Provides a summary of the data, test types, cases simulated, and analyses conducted
- **Customized Reports:** Simplified reporting with “drag and drop” of individual analyses into the report viewer
- **GUI-Based Data Editor:** Comprehensive editor quickly refines the pressure and rate data before analysis
- **Online Help:** Transients+ offers extensive help on basic analysis procedures, data entry, and extensive technical literature
- **Reservoir Fluid Types and Analysis:** All types of reservoir fluids (oil, water, and gas) for single and multi-well test analysis
- **Gas Deliverability Analysis:** Allows users to analyze flow-after-flow, isochronal, and modified isochronal tests

Complete Suite of Analysis Tools

- **Design Analysis:** Ensures appropriate well test sequence and data collection and analysis for the target reservoir
- **Automatic Type Curve Match:** Utilizes nonlinear regression for a wide range of general reservoir and wellbore parameters
- **Manual Type Curve Match:** Includes visual matching of pressures and pressure derivatives to predefined type curves
- **Simulation:** Simulates pressure response over the entire test period based on the parameters from the analysis or the user input
- **Horner Analysis:** All types of reservoir fluids (oil, water, and gas) for single well test analysis
- **Infinite Acting Radial Flow Analysis**
- **Deconvolution:** Enables the combination of several flow/shut-in periods into a single draw-down flow period pressure response. This technique has immense potential for expanding the radius of investigation for the same input data set
- **Wellbore Storage Analysis:** Determines the wellbore storage and the pressure and time corrections for the start of the test period
- **Diagnostic Analysis:** Provides for the quick evaluation of reservoir and well completion parameters
- **Pseudo Steady State Analysis:** Calculates the reservoir limits of a well
- **Radial Superposition Analysis:** Calculates the effective permeability, skin, and p^*
- **Linear Flow Analysis:** Calculates the fracture half length for infinite and finite conductivity fracture models, or the channel width for a channel flow boundary case
- **Bilinear Flow Analysis:** Calculates the fracture conductivity for finite conductivity fractured wellbore models
- **Numerical Simulation:** Full-fledged 3-D finite difference simulator integration can analyze complex PTA problems difficult to analyze with analytical techniques

Full Suite of Reservoir and Completion Models

Reservoir Models:

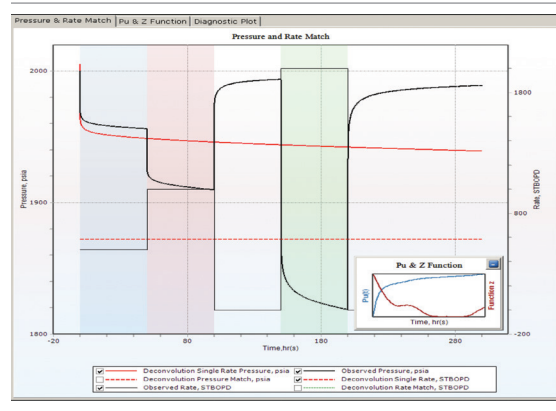
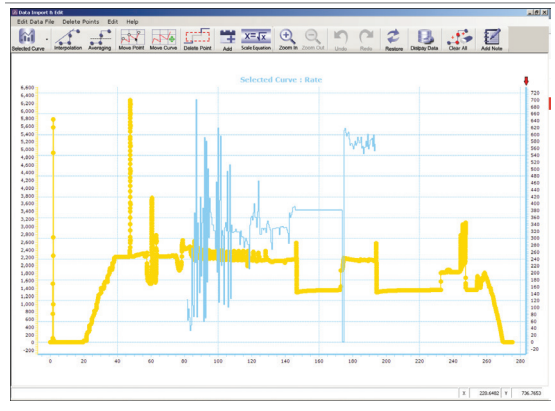
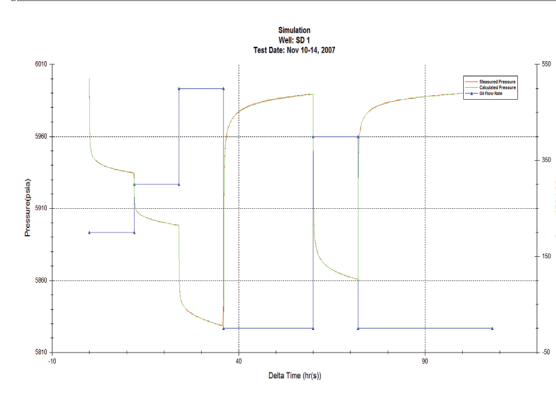
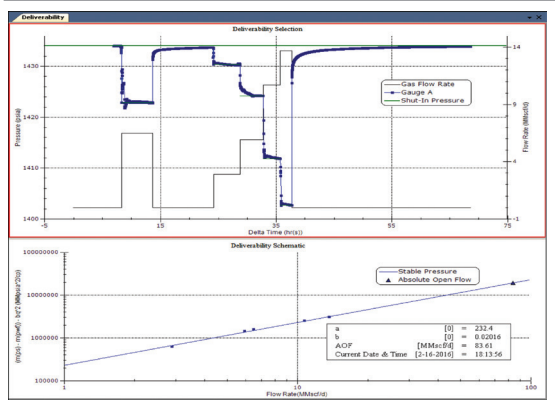
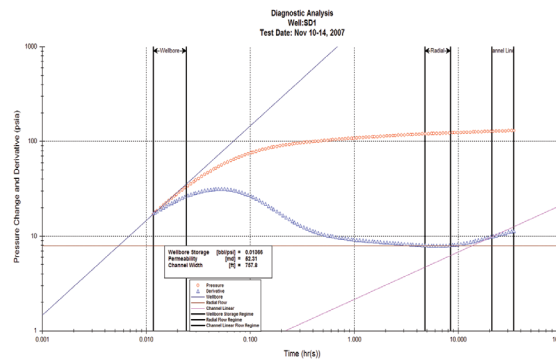
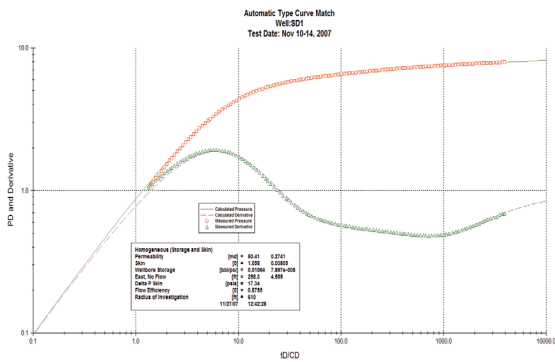
- Homogeneous Reservoir
- Dual-Porosity Reservoir with Pseudo-Steady State Flow
- Dual-Porosity Reservoir with Transient Flow
- Finite-Conductivity Fracture Model
- Infinite-Conductivity Fracture Model
- Two-Layered Commingled Reservoir
- Two-Layered Reservoir with Cross Flow
- Multi-Composite Reservoir

Completion Types:

- Vertical Well
- Horizontal Well
- Segmented Horizontal Well
- Slanted Well
- Partial Penetration Well

Reservoir Boundary Types:

- Infinite Boundary
- No Flow Boundary
- Constant Pressure Boundary





ABOUT PLANO RESEARCH:

- Plano Research Corporation provides a wide array of sophisticated products for the oil and gas sector. Our proprietary technology has been designed to simplify and speed up the analysis of routine and complex problems faced by geoscientists and engineers during all phases of the oil and gas exploration and development. Currently, we offer the following products:

FlowSim (a black oil and compositional reservoir simulator),
CAESAR (a well and reservoir management application),
Transients+ (a pressure transient analysis package),
Analytics (a waterflood optimization tool),
PetroPhase (a phase behavior software package),
PVT (a fluid property data application),
PetroTrak (an online well and field management application),
CoreLog (a petrophysical interpretation tool),
Galaxy4D (a reservoir characterization software),
Sigma (a seismic interpretation package), and
SmartEOR (an EOR screening tool).

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