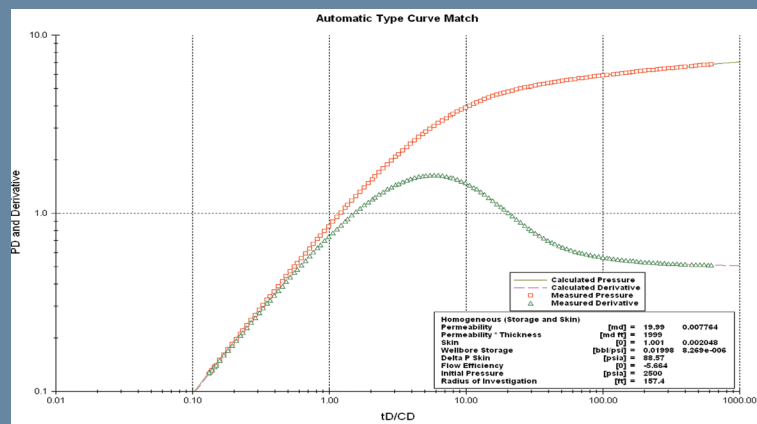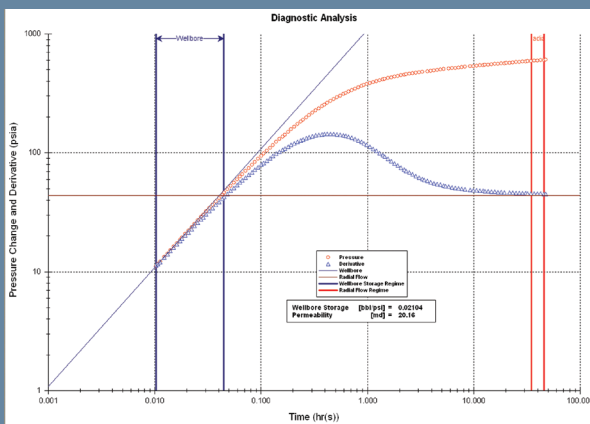# Transients+

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 FLEXIBLITY

- 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

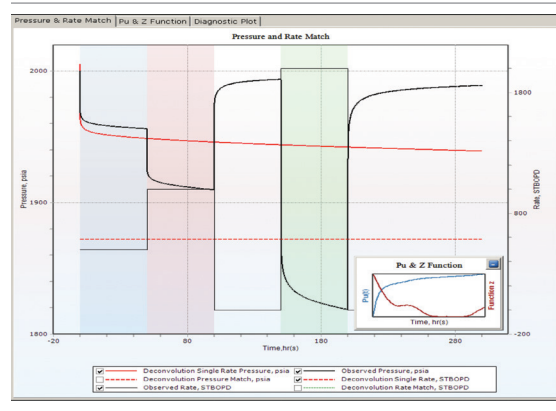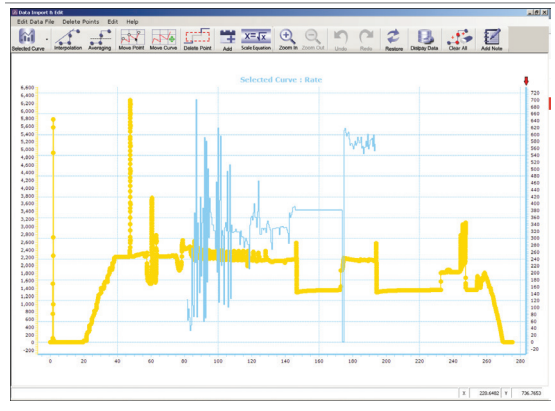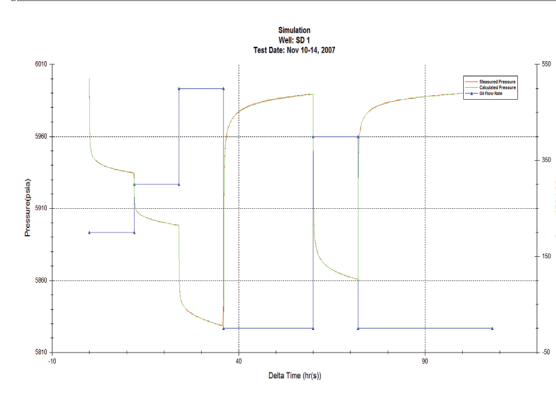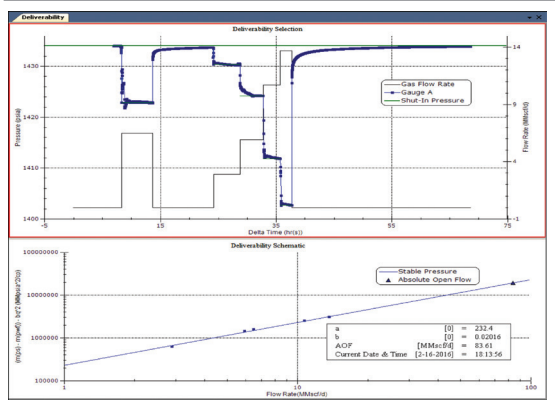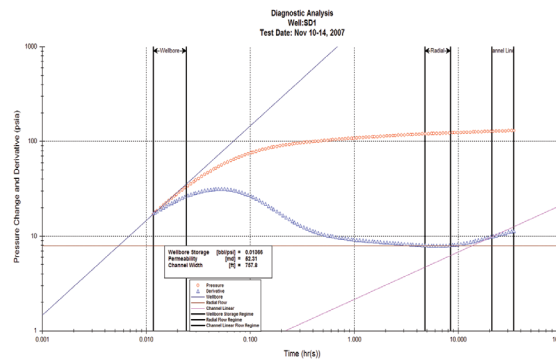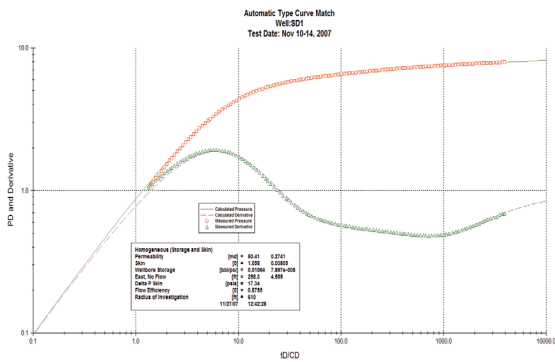## Full Suite of Reservoir and Completion Models

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

PRC Plano Research Corporation