

Harmony Enterprise™

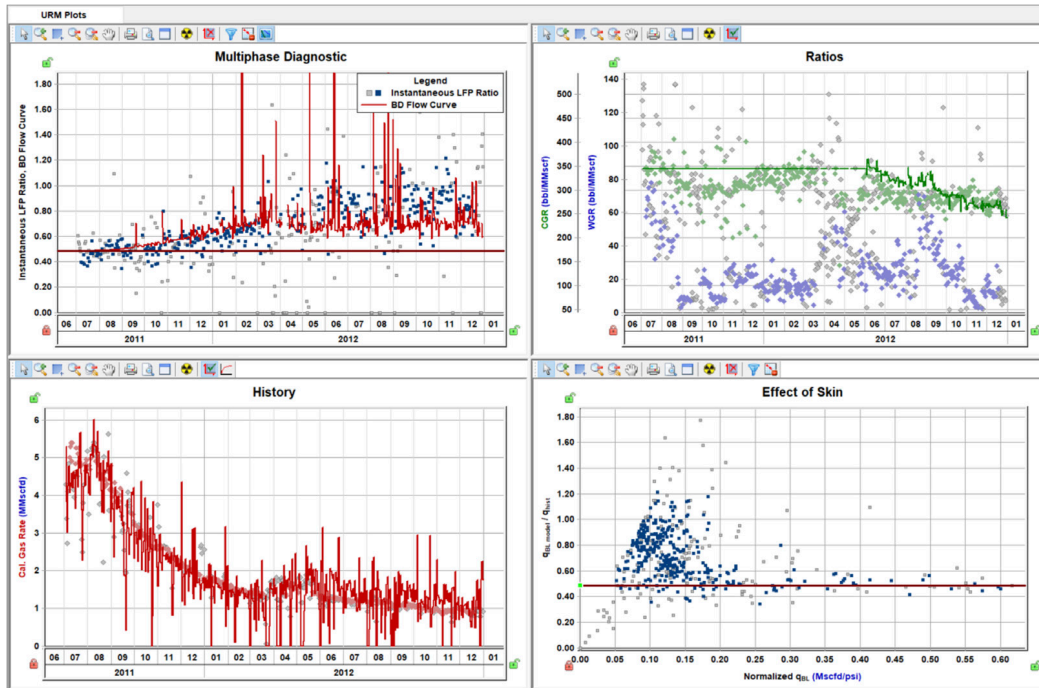
Reservoir Management & Production Software

Fueling Upstream Success: Overcoming Reservoir and Production Challenges for Optimal Value



Overview

Harmony Enterprise by S&P Global Commodity Insights assists Upstream E&P companies in solving complex reservoir and production challenges. This multi-user engineering platform integrates well performance analysis, reserve evaluation, and production optimization, empowering engineers to evaluate reservoir and production potential, while maximizing recovery and profitability.



Numerical Unconventional Reservoir Model

Benefits

- Gain efficiencies in your daily operations with a single platform that combines decline, RTA, and nodal analysis workflows to aid in improved decision-making.
- Collaborate with a shared database and with regularly scheduled updates, ensure your data is always current.
- Optimize production using an IPR curve generated from a multiphase numerical model rather than an empirical correlation.
- Produce fast yet rigorous numerical models that let you get results in a fraction of the time compared to dedicated simulators.
- Improve reserve estimation by understanding uncertainty with probabilistic methods that help you assess production potential and risk.

Top Workflows

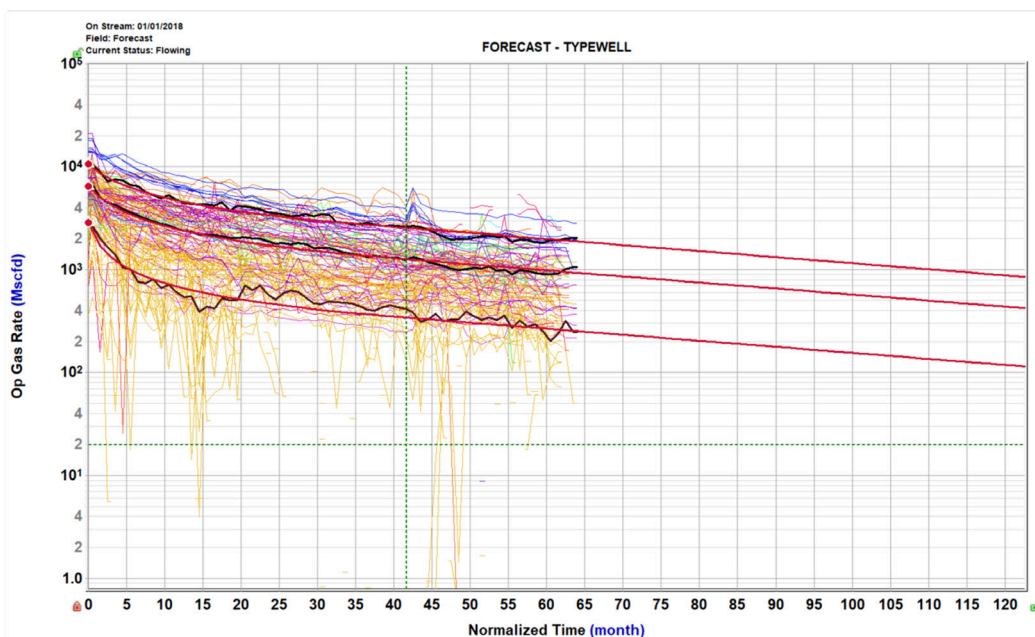
- **Generate Reserve Estimates**
 - Forecast the production of existing and planned wells using a combination of analysis methods such as declines, volumetrics and material balance.
- **Reservoir Characterization**
 - Better understand the reservoir to ensure optimal management and production.
- **Reservoir Deliverability Optimization**
 - Determine the ideal production strategy for your wells.

Module Features

Forecast

Empirical methods to analyze production, forecast and manage reserves.

- **Production Data Analysis**
 - Decline analysis – Arps methods, including limiting decline and multi-segment methods. Intelligent auto forecasting, and probabilistic declines
 - Ratio analysis and associated forecasting
 - Static material balance
 - Volumetrics
- **Reserve Evaluation**
 - Assign reserves classifications to wells or group forecasts
 - Consolidate forecasts based on classification and hierarchy
- **Typewell Analysis**
 - Normalize well production for oil, gas, water and BOE
 - Generate average, P10, P50, P90 production profiles
 - Normalize rates on attributes such as horizontal length, number of stages, or net pay
 - Append forecasts created on individual wells



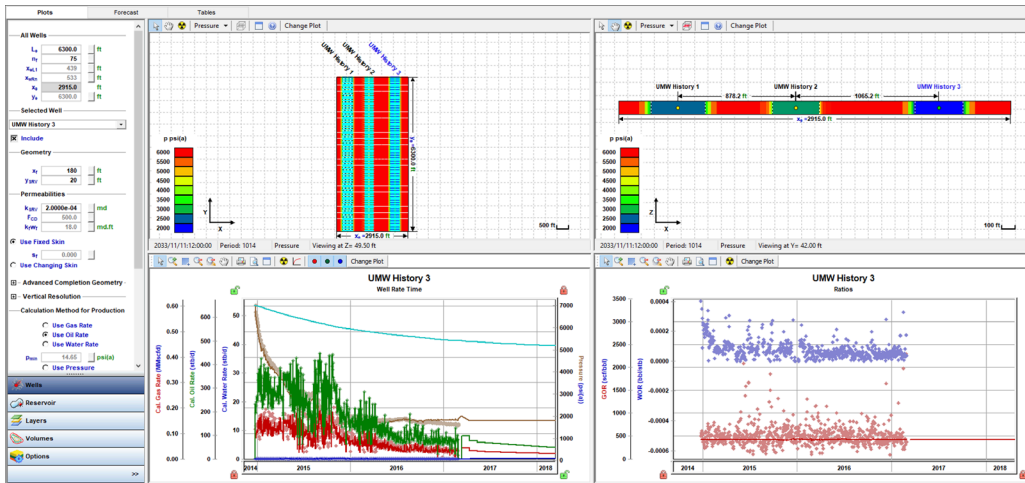
Typewell analysis with wells colored by attribute

Reservoir

Incorporate your flowing pressure data to better understand your well using Rate Transient Analysis methods.

- **Estimation/Characterization**
 - Typecurves
 - Specialized plots such as sqrt time plots
 - Analytical and Numerical models with history matching
- **Diagnostics**
 - Identify aquifer pressure support, well interference, and productivity loss

- Modeling/Forecasting
 - Multiphase Extended Numerical Model
 - Multi-well numerical model
 - Re-fracture modelling
 - Pressure dependent permeability and rock compressibility

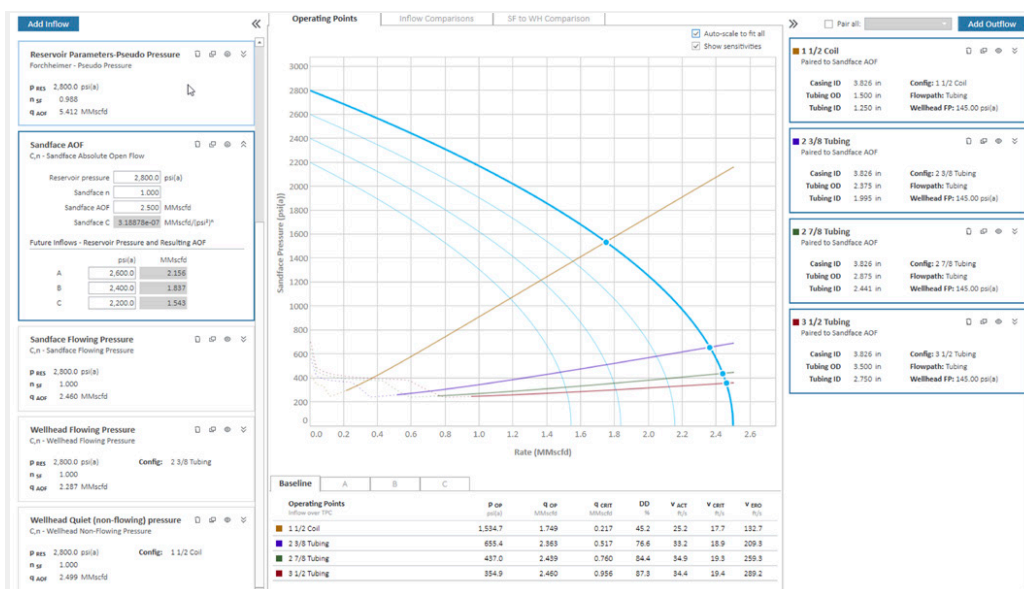


Unconventional Multi-Well

Optimize

Identify the right strategy for well production optimization using nodal analysis methods.

- Deliverability
 - Generate past, current and future IPR curves
 - Create TPC curves for different scenarios
 - Identify liquid loading and erosion
- Advanced Forecasting
 - Create multiple wellhead forecast scenarios
 - View the IPR for any forecast scenario at any point in time



IPR/TPC Worksheets

About S&P Global Commodity Insights

At S&P Global Commodity Insights, our complete view of global energy and commodity markets enables our customers to make decisions with conviction and create long-term, sustainable value.

We're a trusted connector that brings together thought leaders, market participants, governments and regulators, and we create solutions that lead to progress. Vital to navigating commodity markets, our coverage includes oil and gas, power, chemicals, metals, agriculture, shipping and energy transition. Platts® products and services, including the most significant benchmark price assessments in the physical commodity markets, are offered through S&P Global Commodity Insights.

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