



WEM

Well Evaluation Model

Optimizing production to reduce costs and improve profitability

Even with the current global financial turmoil, experts predict steady growth for world energy demand through 2030. This complex economic climate means that we must wring out every drop of production possible – efficiently and cost-effectively – to maximize recovery and reserves. A crucial component of this goal is well performance.

Well Evaluation Model (WEM) is field-tested, analytically rigorous well productivity software that improves performance throughout the full life cycle of a well, from design to abandonment.

Use WEM to design wells for optimum production, monitor performance, and troubleshoot and resolve problems. WEM engineering technology includes completions, production, artificial lift, well testing and phase behavior to facilitate quick, accurate solutions for virtually any well performance issue.

Design

- ◆ Production & Injection Systems
- ◆ Gas Lift
- ◆ Perforations
- ◆ Complex Completions
- ◆ Gun Performance

Optimize

- ◆ Reserves
- ◆ Deliverability
- ◆ Smart Well Control
- ◆ Choke Size
- ◆ Compressors

Analyze

- ◆ PVT
- ◆ Multilayers
- ◆ Multilaterals
- ◆ Flow Test
- ◆ Heat Balance

WEM reduces costs through reliable, accurate modeling, which leads to better analysis and decisions – faster.

The first commercial software to apply nodal analysis to well design, WEM has been used worldwide by operators, service companies and consultants for more than 25 years. In many cases, use of WEM has doubled field production without drilling any additional wells.

And that real-world application and user experience are vital to the continuous enhancement of WEM.

Our support and development teams work closely with WEM users to quickly resolve their specific issues and to add the new features and functionality they need. This partnership helps to keep WEM the leading-edge technology that engineers use to solve today's complex well, production and reservoir challenges.

WEM features an intuitive, easy-to-use graphical user interface of a well schematic performance model. This model is automatically created and updated as you select components from the user-defined installed equipment list. And the array of equipment and options available in WEM ensures that any producing or injecting system can be modeled.

Optimizing Performance



P.E. MOSELEY
& ASSOCIATES, INC.

WEM for Design, Monitoring and Problem Solving

Engineers use WEM to:

- ◆ **Design producing or injecting wells** of virtually any configuration for optimum performance, to maximize recovery and operate safely. Completion design includes P.E. Moseley's proprietary perforating gun database, which features an industry-wide collection of perforating guns with certified API RP-43 or 19B test data.
- ◆ **Monitor well operation and production** to ensure wells are achieving specified performance goals.
- ◆ **Troubleshoot production and flow assurance issues**, determine causes of problems, and analyze and compare possible solutions to determine the best course of action.
- ◆ **Design and monitor artificial lift programs** including continuous flow gas lift, electric submersible pumps (ESP) or jet pumps. Compare the effectiveness of various artificial lift alternatives to determine the best solution.
- ◆ **Perform sensitivity analysis** on virtually any system variable and plot inflow/outflow at any point in the system, which helps reveal potential problems and opportunities for further production enhancement.
- ◆ **Calculate abandonment pressures** which helps to determine if you can eke out more value from an aging well or asset, or if it's time to call it quits.

WEM improves profitability through optimization and monitoring, which helps you achieve production goals, maximize recovery and verify reserves.

How WEM Works

Nodal analysis for well performance is based on the principle that reservoir inflow and wellbore outflow can be independently characterized as functions of flow rate. The single rate that balances the pressure losses in the inflow-outflow components to the pressure drop across the total system defines well flow. Starting from this premise, optimizing well productivity has evolved to a process of systematic updating of well parameters and comparing incremental flow rates with the associated cost of the proposed changes.

WEM empowers engineers to anticipate, prevent or quickly resolve problems to maximize deliverability.

Applied correctly, well performance technology can solve the challenges of designing and operating oil and gas wells. WEM integrates the wide variety of engineering technologies necessary to develop quick, accurate solutions for virtually any well performance issue.

Your Next Step

To discuss your specific needs and arrange a demonstration or free trial of WEM, call us today at +1 281 496 1249. Or email us at sales@pmoseley.com.

About P.E. Moseley & Associates, Inc.

P.E. Moseley & Associates, Inc. (Moseley) develops and supports software and delivers training, mentoring and consulting services exclusively for the oil and gas industry. Products and services focus on well design, production optimization and reserves.

Since its inception in 1982, the company has delivered innovative, analytically-rigorous, user-friendly software solutions, beginning with WEM (Well Evaluation Model), the first commercial software to apply nodal analysis to well design and production optimization.

Virtually all software is developed and supported in-house by a Moseley team of advanced-degree experts and superior programmer talent. This elite team means Moseley customers receive fast, accurate technical support and rapid response to requests for new functionality.

Founder and president Dr. Phillip E. Moseley drives development, support, training and consulting. A team of Moseley associates executes the vision through continuous product enhancement and support, consulting, and delivery of public or company-specific training in well design and production optimization using Moseley software.