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SEDA GROUP
SMART ENERGY DATA ANALYTICS

xOptim™ MB – Advanced Material Balance & Reservoir Simulator Software

Developed by SEDA Group's reservoir engineering team, **xOptim™ MB** is a powerful and flexible material balance software engineered for accurate reservoir characterization, history matching, and future performance forecasting.

It delivers robust physics-based modeling, numerical stability, and intuitive workflows, enabling engineers and researchers to confidently analyze complex oil and gas reservoirs.

Main Features;

1 Smart Project & Model Management

- Comprehensive tools for creating, editing, and organizing multiple material balance models
- Centralized workspace to manage all reservoir data, models, assumptions, and results
- Fully streamlined workflow from data input and validation to calibrated models and forecasts
- Flexible handling of multi-sector and compartmentalized reservoirs
- User-friendly interface designed for both beginner and expert reservoir engineers

2 Advanced History Matching & Reservoir Characterization

- Estimation of original oil in place (OOIP), original gas in place (OGIP), and gas-cap size for each sector
- Calculation of water influx using industry-standard analytical aquifer models
- Estimation of transmissibility and inter-sector fluid communication
- Estimation of rock and fluid compressibility
- Identification and quantification of dominant production mechanisms
- Verification of history-matching quality through pressure-history reconstruction
- Robust and stable convergence for complex, multi-sector reservoirs

3 Future Performance Prediction & Forecastingtion

Predict reservoir performance with confidence through:

- Pressure, GOR, and water-cut prediction for each sector
- Water influx forecasting and water & gas recovery estimation
- Prediction of fluid saturations across sectors
- Forecasting of inter-flow between connected reservoir sectors
- Optimized simulation of Van Everdingen–Hurst water influx calculations
- Fast, reliable forecasts to support development planning and reservoir management

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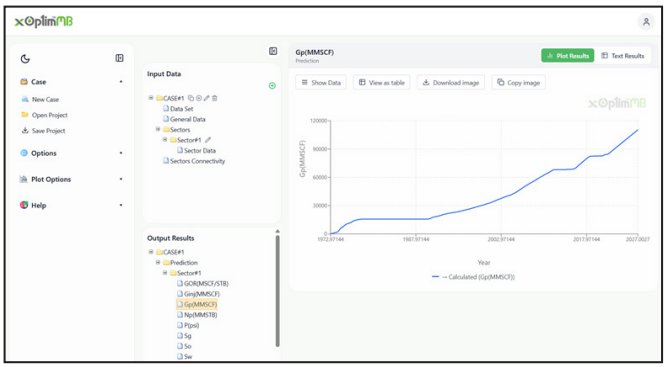
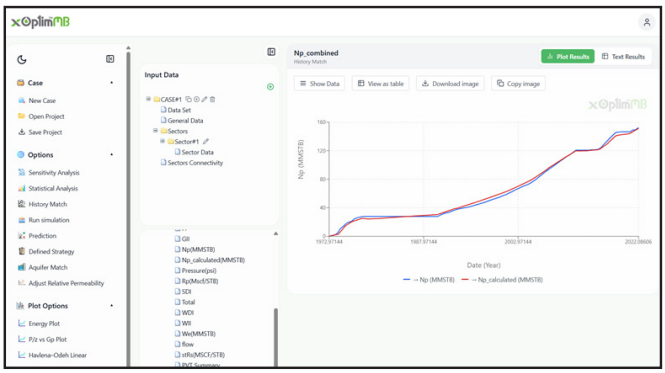
4 Sensitivity Analysis & Uncertainty Assessment

- Evaluate uncertainty in OOIP/OGIP, aquifer strength, transmissibility, and rock properties
- Sensitivity analysis for key reservoir and fluid parameters
- Support for scenario-based decision-making and risk assessment
- Improve confidence in development strategies and reservoir forecasts





Why Choose Our Software?

Reliable and validated material balance algorithms for oil and gas reservoirs

User-friendly and intuitive interface designed for both research and field applications

Highly scalable equally effective for academic studies, R&D, and full-field reservoir analysis

Robust numerical stability and efficient convergence

Precision, efficiency, and confidence accelerate reservoir decisions

Future-ready platform integrating classical and advanced material balance workflows

Continuous updates & technical support backed by SEDA Group's global engineering teams

xOptimMB

Accurate, reliable, and engineered for modern reservoir engineering.

Exceptional numerical stability with excellent convergence performance, even for complex fluids with non-zero binary interaction coefficients.