THREE-PHASE, BLACK-OIL RESERVOIR SIMULATOR

IMEX™ produces the fastest conventional reservoir simulation results in comparison to other simulation software. IMEX models complex, heterogeneous, faulted oil and gas reservoirs, using millions of grid blocks, to achieve the most reliable predictions and forecasts. Move from history-matched, primary production and waterfloods to enhanced recovery processes in GEM™ and STARS™ quickly and easily, with single-button conversion via Builder™.

Use IMEX for screening prospects, setting up pilot designs, monitoring and optimizing field operations, and improving production performance.

DESCRIPTION & APPLICATIONS

IMEX is a full-featured three-phase, four-component, black oil reservoir simulator for accurately modelling complex heterogeneous faulted structures, primary and secondary recovery processes, horizontal and multilateral wells and reservoir subsidence.

IMEX includes features such as local grid refinement (LGR), comprehensive well management, pseudo-miscible option, polymer flooding, horizontal wells, dual porosity/permeability, flexible grids, gas adsorption and many more.

IMEX models multiple PVT and equilibrium regions, as well as, multiple rock types and has flexible relative permeability choices. Regardless of the size or complexity of your reservoir problem, IMEX is an effective tool for a broad range of reservoir management issues.

To optimize your reservoir simulation model, use IMEX after history-matching to screen multiple recovery techniques to obtain the best net present value (NPV). The speed of IMEX allows engineers to conduct more runs than any other simulator.

UNCONVENTIONAL RESERVOIRS

Gas adsorption is an important consideration in unconventional gas recovery. IMEX can model simple adsorption effects in shale and coal bed methane (CBM) reservoirs. In addition, IMEX incorporates one of the most sophisticated means of modelling naturally or hydraulically fractured reservoirs. Select many different fracture models – gravity, re-imbibition, and transient effects – to provide accurate fluid transfer simulation in a naturally fractured reservoir system. Detailed hydraulic fracture response under multi-phase non-Darcy flow conditions and the stimulated areas of tight/shale gas reservoirs, are all easily analysed.

BENEFITS

- Achieve simulation results faster than any other conventional simulator
- Ability to quickly screen a variety of recovery mechanisms before moving forward to a more complex simulation
- Accurate modelling of the matrix-fracture transfer in fractured reservoirs
- Use the speed of IMEX to model shale gas adsorption effects
- Seamless integration with CMOST™ for rapid, accurate history matches and uncertainty analysis, while leveraging limited engineering time
- Fast and easy transition to enhanced oil recovery (EOR) process modelling in GEM and STARS

WHY CMG?

CMG is devoted to providing the ultimate customer experience with our commitments to:
- R&D investment
- Superior software technology
- Unparalleled user support

Results 3D image of a reservoir under primary production. Streamlines show the movement of fluids to each well.
RESERVOIR FLUID CHARACTERIZATION

IMEX models multiple fluid systems, including condensates and volatile oils, and allows API tracking for density segregation and mixing effects in the hydrocarbon system. IMEX can model secondary recovery processes – waterflood and gas injection – and some EOR processes: miscible and pseudo-miscible injection; polymer injection; and WAG processes. IMEX also allows for incompatible water mixing and solid scale formation within the reservoir and well system.

CONVENTIONAL RESERVOIR

IMEX links directly to sophisticated network facility models to simulate the complete field and surface facilities recovery process. These programs are coupled at the time-step level, allowing accurate forecasting and scheduling of gas field development. Various types of contract constraints and controls are available. Multiphase flow in both the gathering system and wellbore are handled, giving you the flexibility to evaluate gas delivery to various plants, to determine optimal compression, to use different compressor specifications, to design gas injections, and to optimize field recovery.

IMEX models the flow of three-phase oil, gas, water reservoir performance, as well as polymer and pseudo-miscible processes. It models in one, two, or three dimensions, including complex, heterogeneous and faulted structures.

WHY CMG?

Computer Modelling Group Ltd. (CMG) is the leading supplier of advanced reservoir simulation software for conventional and unconventional reservoirs. CMG offers black oil, compositional, thermal and chemical reservoir simulators, assisted history matching and optimization, sensitivity and uncertainty tools, all augmented with visualization to interpret and understand simulation results. Experienced engineering teams in offices around the world provide the best software user support, training and technical assistance.

CMG is devoted to providing the ultimate customer experience through our commitments to R&D investment, superior software technology, and unparalleled user support.

COMMITTED TO R&D INVESTMENT: CMG reinvests approximately 20% of its annual revenue into product research and development (R&D). With more than half of our employees devoted to these tasks, CMG routinely exceeds our customers’ expectations. CMG is proud of our academic strength with 50% of our employees holding a Master's degree or higher qualification.

COMMITTED TO DELIVERING SUPERIOR SOFTWARE TECHNOLOGY: CMG, the leader in enhanced oil recovery simulation, delivers software that is easier to use and provides the most accurate results for compositional, conventional, unconventional and advanced IOR/EOR processes. CMG software is the industry standard for usability, physics, robustness and performance.

COMMITTED TO UNPARALLELED USER SUPPORT: CMG provides experienced technical sales and support personnel around the world, priding itself on a standard “one-day response rate” for technical support questions. In addition, CMG offers industry leading software training courses in our Calgary, Caracas, Dubai, Houston and London offices.