METTE

Flow assurance & optimization from exploration to daily production

METTE is tailored to get the most out of the reservoir lifecycle. It caters to reservoir engineers, production technologists and facilities people by providing access to all types of thermo-hydraulic calculations within the framework of one single application.

- Combine time-dependent and steady-state flow modeling for a comprehensive approach to your system
- Benefit from excellent and proven performance both on calculation speed and large systems handling capacity
- Take advantage of an integrated suite of tools to take critical, but cost effective decisions.
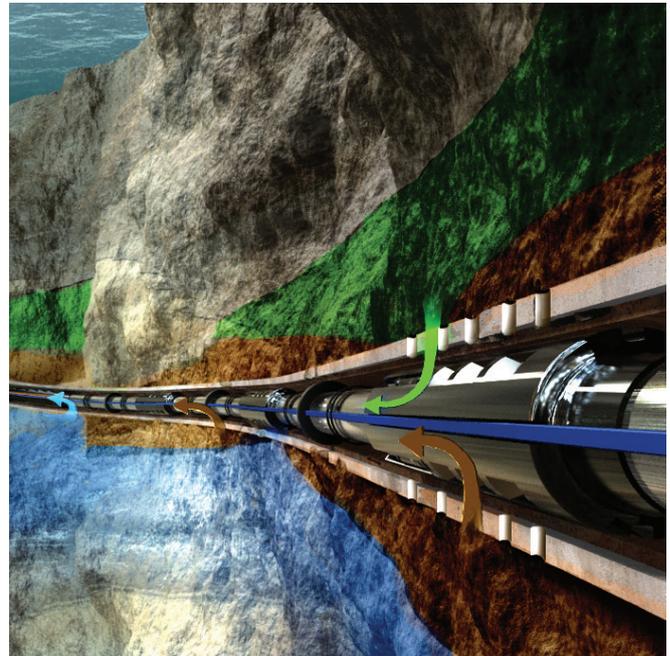

In Summary

METTE can be used for integrated flow assurance tasks, production optimization and transient analysis. Integrate data from databases, connect to proxy reservoir models as well as reservoir simulators to model flow behaviour from the reservoir to the surface.

Flow Performance

Users can calculate single well or flow line performance of mono- and multiphase flow systems thanks to the fast and robust algorithm this tool encompasses. The user interface allows simple setup of data and definition of calculation conditions. Multipliers can be applied to key parameters like diameter, heat transfer coefficients and phase densities included in a single simulation. Likewise, settings can be made for different items, such as valve positions for chokes, power for pumps or gas lift amounts for mass source items.

Integrated Field Modeling

The integrated field module is used for life of field simulations. Users can model production networks from reservoir to topside; include interfaces with service networks and unit operations, such as separators, pumps, compressors and more; and use databases, proxy reservoir models and/or reservoir processes as data sources. Connection with reservoir simulators is simple to set up and use, and the module also employs an extremely fast and efficient network optimizer with proven capabilities.

Transient Flow

The transient module is used for the time dependent simulation of well and flow line behavior. It provides both a speedy and cheap alternative to available simulators in the market. Typical applications includes:

- Cool-down times for different pipe wall insulation configurations.
- Calculating necessary hydrate inhibitor amounts during cold start-ups.
- Evaluation of requested times for flow line depressurization.
- Determining the effect of inadvertent events like accidental valve openings or choke collapses.

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Initial conditions and time-dependent variations in boundary conditions and other calculation parameters are defined using an intuitive interface.

Virtual Metering

Virtual metering is a very cost effective solution for finding well phase flows, requiring only a computer linked to a production database for the retrieval of measured source data. It can equally well be used on historical data without the need of a direct connection to a central data source. Combining known well flow rates with the PID control module provides set points for active components such as chokes, pumps and gas lift supply to achieve production targets subject to defined system constraints.

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