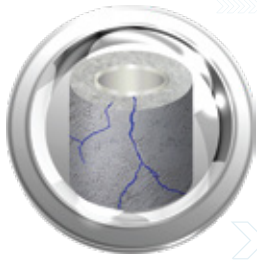## Drilling Software | Sophisticated Yet Simple

CEMLife
Cement Stress Model

Overview

Maintaining cement integrity is fundamental throughout the life of a well. Even if the slurry has been properly placed, changes in downhole conditions may induce thermal and mechanical stresses to attenuate the integrity of the cement sheath. CEMLife is a software package that analyzes 4 types of failure modes for cement(traction, compression, micro-annulus and disking) under various temperature conditions and pressure changes. It performs calculations on the impact of 10 different parameters with its sensitivity analysis feature to quickly achieve slurry optimization.

Benefits

Customization and Flexibility

- Editable databases for casing, cement, and formation.
- Supports complicated wellbore structures and jetted casings.

Comprehensive Analysis

- Evaluates the entire wellbore including land and offshore wells.
- Supports up to 20 casing strings and multiple zones.

Mitigated Environmental Risks

- Preventing cement failures helps to protect the environment by minimizing the risk of fluid leakage and contamination.

CEMLife—Cement Stress Model

Features

- Land and offshore wells
- Whole wellbore analysis (multiple zones)
- Multiple casing strings (up to 20 casing strings in a wellbore)
- Different cement properties (lead/tail) in each cement column
- Sensitivity analysis
- Load changing and failure animation
- Professional report and animation movie generation
- Predicts compression fail, traction fail, and micro annulus
- Well trajectory 2D/3D display
- Support complicated wellbore structure
- Consideration of casing standoff
- Editable casing, cement, formation databases
- Up to 20 zone of interest
- Multiple pressure and temperature schedules
- Flexible simulation time (range from 1 minute to years)
- Adjustable safety margin
- Heat transition through cement, casing and mud
- Support Jetted casing
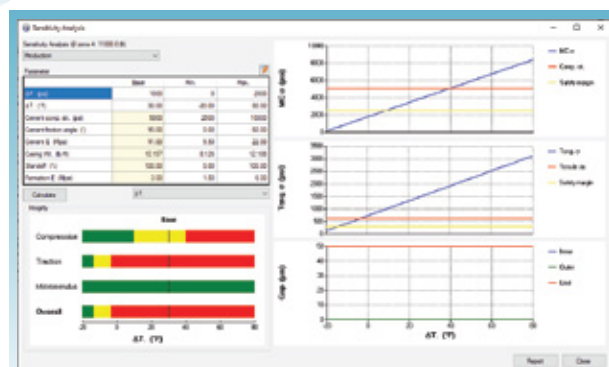
System Requirements

- Microsoft Windows® 10 or above
- Microsoft Office® 2016 or above
- Dual-core Intel or AMD processor, 1.4 GHz or higher. Quad-core CPU recommended. Not compatible with ARM processor
- 4 GB RAM (8 GB Recommended)
- 200 MB of free disk space for installation
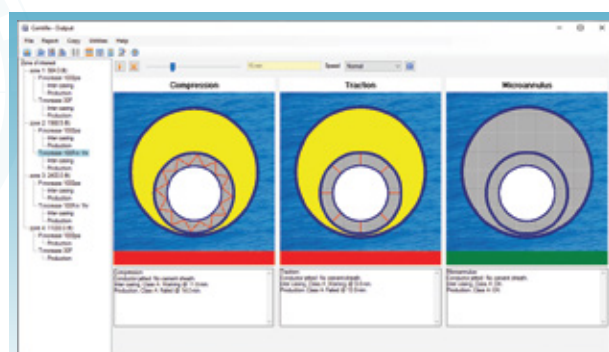- 1,280 x 768 display resolution
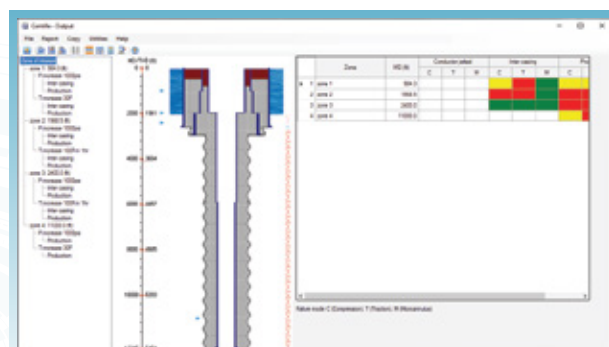
Whole Wellbore Analysis
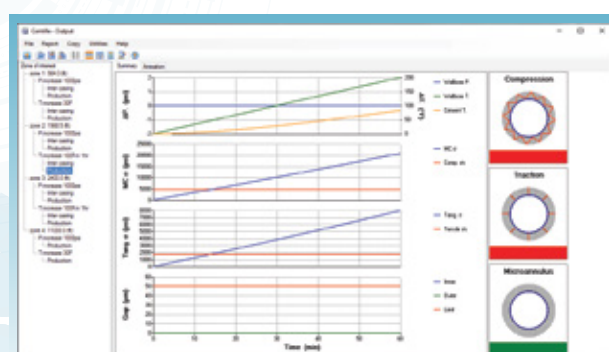
Zone of Interest

Sensitivity Analysis

3 Types of Failure Modes