CEMLife
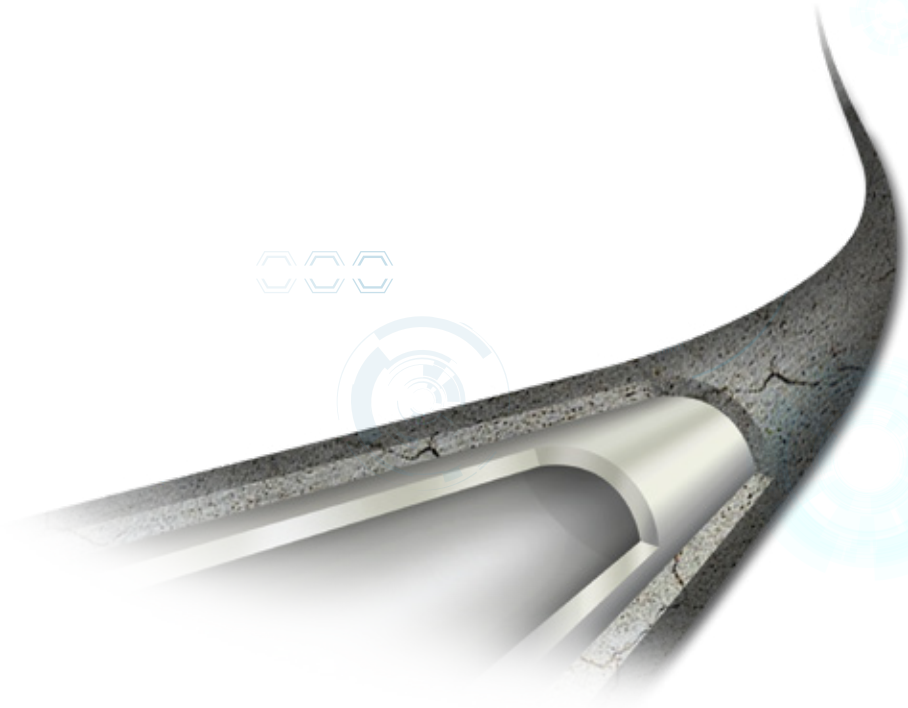## Cement Stress Model

Overview

Maintaining integrity of cement is fundamental throughout the life of the well. Even if the slurry has been properly placed, changes in downhole conditions can induce thermal and mechanical stresses to attenuate the integrity of the cement sheath. CEMLife is a software package that analyzes 3 types of failure modes (traction, compression, micro-annulus) under various temperature conditions and pressure changes. It performs calculation on the impact of 8 different parameters to quickly achieve the slurry optimization with its sensitivity analysis feature.
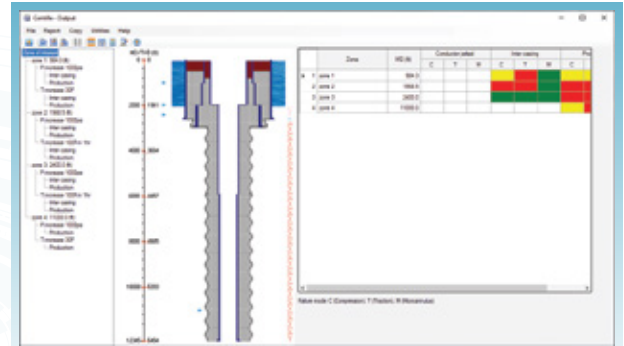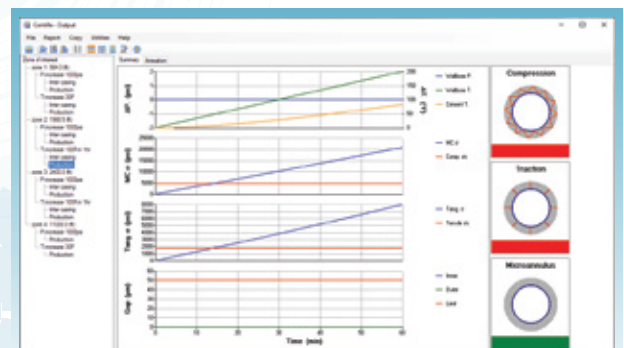
Features

- 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
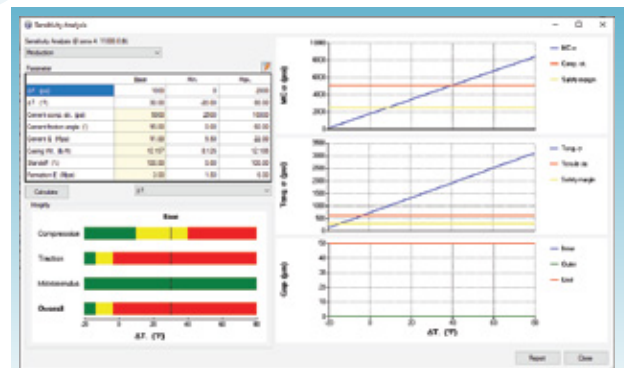- Support Jetted casing

System Requirements

- Microsoft Windows® 10 or above
- Microsoft Office® 2016 or above
- Dual-core processor, 1.4 GHz or higher (Not compatible with ARM processor)
- 4 GB RAM
- 200 MB of free disk space for installation
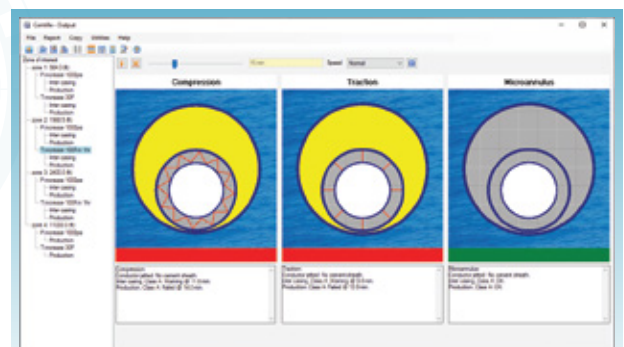- 1,280 x 768 display resolution

Whole Wellbore Analysis

Zone of Interest

Sensitivity Analysis

3 Types of Failure Modes