Pegasus Vertex, Inc.

Drilling Software | Sophisticated Yet Simple

LCPRO
Lost Circulation Model

Overview

During drilling or cementing operations, drilling fluids or cement slurries can be lost into permeable or cavernous formations. This is called lost circulation. Treatment of lost circulation has become an important aspect of well construction. Pumping in lost circulation treatment material (LCM) while controlling bottom hole pressure and temperature requires a complete understanding of the hydraulic and thermal conditions in the wellbore.

Pegasus Vertex, Inc. developed LCPRO to assist in the design of drilling, cementing, or well treatment operations where lost circulation is present. The simulator models the fluid displacement process with a planned pumping schedule, different loss conditions, and annular filling operations.

LCPRO—Lost Circulation Model
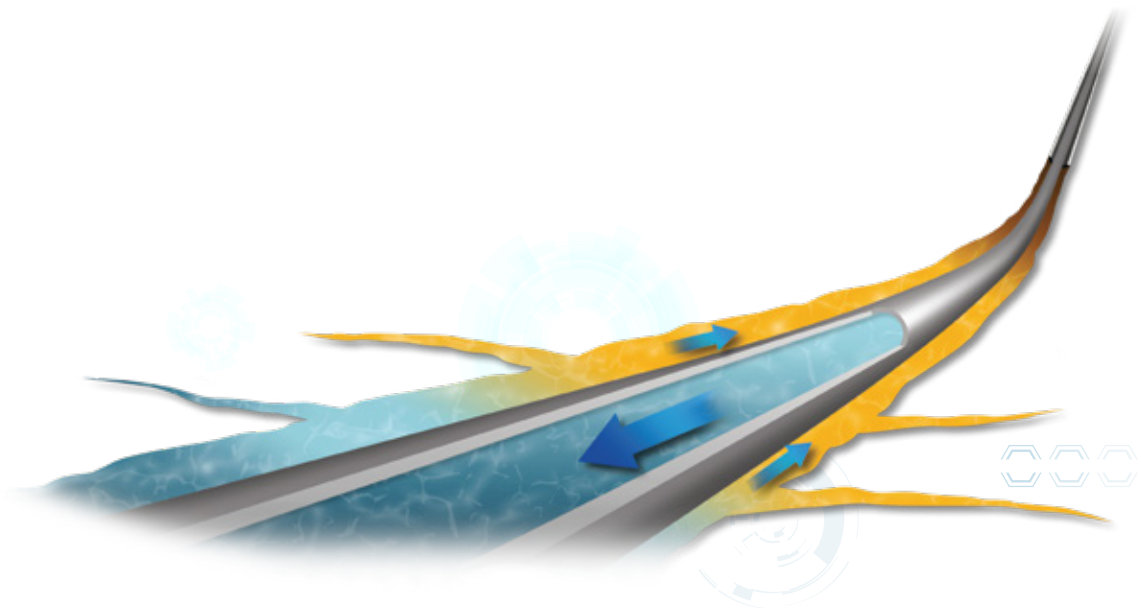
Features

- Land and offshore well
- Options to specify or calculate loss rate
- Multiple annulus filling situations
- Lost volume vs. time
- Free-fall/back-fill (U-tubing) calculation
- ECDs/pressures at various depths vs. time
- Handling of up to 12 fluids, each at up to 40 different rates
- Fluid displacement animation
- Shut-in time
- Caliper log import
- Bingham Plastic, Power Law, and Herschel Bulkley rheology models
- Temperature at point of interest
- Pressure drop calculation for coiled tubing
- Microsoft Word® report
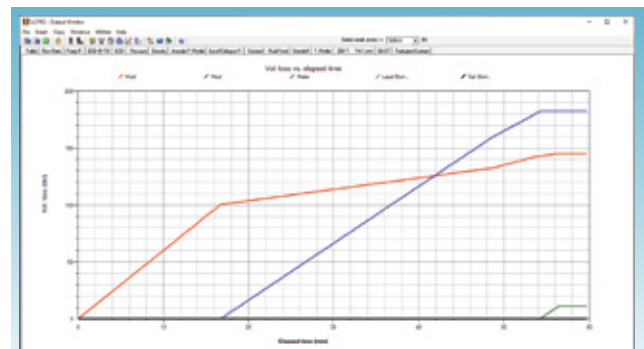
System Requirements

- 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
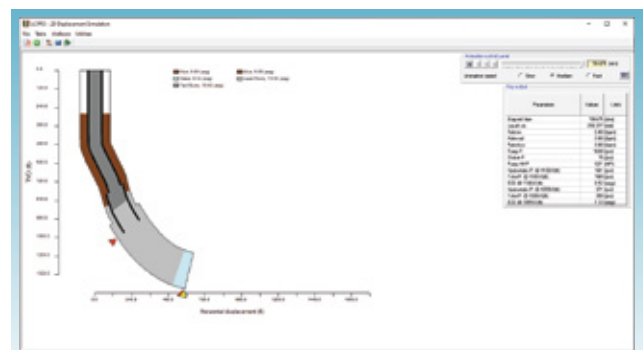- 1,280 x 768 display resolution
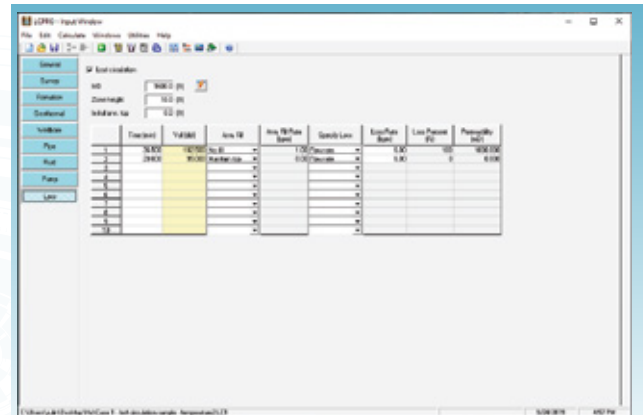
Loss Rate at Different Formation Conditions

Handles up to 12 Fluids

Volume Loss vs. Elapsed Time

2D Displacement Simulation